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BROADBENT

ARMY MEDICAL DEPARTMENT

533

REPORT

FOR THE YEAR 1890;

WITH APPENDIX.

VOLUME XXXII.

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1892.

Price One Shilling and Eightpence.

TO THE RIGHT HONOURABLE

THE SECRETARY OF STATE FOR WAR.

SIR,

I HAVE the honour to submit the accompanying Report on the Health and Sanitary Condition of the Army for 1890.

I have the honour to be,
SIR,
Your most obedient
Humble Servant,
W. A. MACKINNON,
Director-General.

MEDICAL DIVISION, WAR OFFICE,
1892.

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ARMY MEDICAL DEPARTMENT REPORT FOR 1890.

STATISTICAL REPORT.

Troops at Home and Abroad.

THE average annual strength of the troops serving at home and abroad in 1890, as computed from the returns received by the Army Medical Department, was 196,502 warrant officers, non-commissioned officers and men (exclusive of Colonial Corps); the admissions into hospital in this force were 208,014 and the deaths 1,787. The rates represented by these numbers are for admissions into hospital 1058·6 and for deaths 9·02 per 1,000 of the average annual strength, the latter being calculated on a strength of 198,154, which includes detached men.

The statistics of some of the most important of the results of sickness, in every Command in which the troops were stationed, are exhibited in the following Table :—

1890.

White Troops.	Average Strength.	Admitted into Hospital.	Died.	Sent Home as Invalids.	Discharged as Invalids.	Constantly non-effective from Sickness.
Troops at Home and Abroad	**196,502**	**208,014**	**1,787**	**2,314**	**3,240**	**11,574·08**
United Kingdom	100,120	81,159	563	—	1,702	4434·69
Gibraltar	4,659	3,524	15	56	46	187·27
Malta	7,055	4,151	69	160	95	270·13
Cyprus	508	303	3	5	1	17·98
Egypt	3,209	3,177	40	58	43	206·19
Canada	1,3·1	600	7	21	17	34·88
Bermuda	1,546	988	21	21	18	44·65
West Indies	1,044	1,241	10	30	28	67·78
South Africa and St. Helena	2,961	2,327	25	108	68	149·84
Mauritius	516	816	7	46	12	47·14
Ceylon	1,028	867	10	35	24	55·80
China	1,346	1,688	13	34	25	69·40
Straits Settlements	1,257	1,570	5	25	15	122·36
India	67,456	102,337	975	1,715	1,146	5865·97
On board Ship	2,416	3,266	24	—	—	—

Troops at Home and Abroad.

1890.

White Troops.	Ratio per 1,000 of Strength.					Average sick-time to each Soldier.	Average duration of each case of Sickness.
	Admitted.	Died.	Sent Home as Invalids.	Discharged as Invalids.	Constantly non-effective from Sickness.		
	*	†	‡	§	‖	Days.‖	Days.‖
Troops at Home and Abroad	**1058·6**	**9·02**	**24·63**	**16·55**	**59·63**	**21·77**	**20·63**
United Kingdom	810·6	5·53	—	16·72	44·29	16·17	19·94
Gibraltar	756·3	3·22	12·02	9·87	40·19	14·67	19·40
Malta	588·3	9·77	22·68	13·46	38·28	13·97	23·75
Cyprus	596·4	5·90	9·84	1·97	35·39	12·92	21·66
Egypt	990·0	12·47	18·07	13·40	64·25	23·45	23·69
Canada	434·4	5·07	15·20	12·31	25·25	9·22	21·22
Bermuda	639·0	13·58	13·58	11·64	28·88	10·54	16·49
West Indies	1188·7	9·58	28·73	26·82	64·92	23·69	19·93
South Africa and St. Helena	785·8	8·44	36·47	22·97	50·60	18·47	23·50
Mauritius	1581·4	13·57	89·15	23·25	91·36	33·35	21·09
Ceylon	843·4	9·73	34·04	23·34	54·28	19·81	23·49
China	1254·1	9·65	25·26	18·57	51·56	18·82	15·00
Straits Settlements	1249·0	3·98	19·89	11·93	97·34	35·53	28·44
India	1517·1	14·45	25·42	16·99	86·96	31·74	20·92
On board Ship	1351·8	9·93	—	—	—	—	—

* Calculated on strength, excluding men detached (1,652).
† Calculated on strength, including men detached.
‡ Calculated on strength, excluding United Kingdom and troops on board ship.
§ Calculated on strength, including men detached, and excluding troops on board ship.
‖ Calculations exclude men detached and troops on board ship.

1880 to 1889.

White Troops.	Aggregate strength for 10 years.	Admitted into Hospital.	Deaths.	Sent Home as Invalids.	Discharged as Invalids.	Constantly non-effective from Sickness.
Troops at Home and Abroad	**1,795,384**	**1,899,923**	**18,723**	**26,622**	**30,625**	**98,524**
United Kingdom	903,601	749,093	5,668	—	18,151	41,763
Gibraltar	45,705	36,508	280	1,155	447	2,217
Malta	51,011	37,194	443	1,116	580	2,376
Cyprus	6,004	5,246	52	87	34	267
*Egypt	47,069	58,383	1,208	3,718	1,278	3,477
Canada	14,869	10,140	80	363	308	563
Bermuda	14,439	9,127	145	245	143	486
West Indies	9,493	9,544	137	234	123	463
South Africa and St. Helena	44,653	34,809	814	1,926	1,028	2,331
Mauritius	3,947	7,389	58	180	60	335
Ceylon	10,623	12,008	144	337	139	646
China	10,736	11,144	164	380	257	560
Straits Settlements	9,745	11,656	71	222		544
India	597,058	881,245	9,349	16,659	8,077	42,496
On board Ship	27,031	26,437	170	—	—	—

* For seven years only (1883–89).

1880 to 1889.

Troops at Home and Abroad.

White Troops.	Ratio per 1,000 of Strength.					Average sick-time to each Soldier.	Average duration of each case of Sickness.
	Admitted.	Died.	Sent Home as Invalids.	Discharged as Invalids.	Constantly non-effective from Sickness.		
						Days.	Days.
Troops at Home and Abroad	**1058·2**	**10·28**	**30·78**	**17·07**	**55·71**	**20·33**	**19·19**
United Kingdom	829·0	6·10	—	19·54	46·22	16·87	20·35
Gibraltar	798·8	6·13	25·27	9·78	48·51	17·70	22·16
Malta	729·1	8·68	21·88	11·37	46·58	17·00	23·31
Cyprus	873·7	8·66	14·49	5·66	44·47	16·23	18·58
*Egypt	1240·4	25·66	78·99	27·15	73·87	26·96	21·73
Canada	681·9	5·38	24·41	20·71	37·86	13·82	20·27
Bermuda	632·1	10·04	16·97	9·90	33·66	12·28	19·44
West Indies	1005·4	14·43	24·65	12·96	48·77	17·80	17·71
South Africa and St. Helena	779·5	18·23	43·13	23·02	52·20	19·05	24·44
Mauritius	1872·1	14·69	45·60	15·20	84·87	30·98	16·55
Ceylon	1198·0	14·37	33·62	13·87	64·45	23·52	19·64
China	1038·0	9·69	35·39	12·55	52·15	19·03	18·34
Straits Settlements	1196·1	7·28	22·78		55·82	20·37	17·03
India	1476·0	15·66	27·90	13·53	71·18	25·98	17·60
On board Ship	978·0	6·29	—	—	—	—	—

* For seven years only (1883–89).

II.—ON THE HEALTH OF THE TROOPS SERVING IN THE UNITED KINGDOM.

Sickness and Mortality.

United Kingdom.

The average strength of warrant officers, non-commissioned officers and men who served in the United Kingdom during the year 1890 was 100,120, according to the returns furnished by medical officers. In addition to this there were certain men detached from their corps, the average number of whom is computed to have been 1,652.

The following table gives the most important of the statistics of sickness and mortality among the troops quartered in the three great divisions of the kingdom, England and Wales, Scotland, and Ireland, and also among those in the United Kingdom as a whole :—

1890.	Average Strength.	Admissions.	Deaths.	Invalids.	Constantly Sick.
England and Wales - -	71,517	59,856	413	1,213	3302·77
Scotland - - - -	3,746	2,606	23	112	109·66
Ireland - - - -	24,857	18,607	127	377	1022·26
United Kingdom -	100,120	81,159	563	1,702	4434·69

(*continued.*)

1890.	Ratios per 1,000 of Strength.				Average Sick Time to each Soldier.	Average Duration of each case of Sickness.
	Admissions.	Deaths.*	Invaliding.*	Constantly Sick.		
					Days.	Days.
England and Wales - -	836·9	5·71	16·77	46·18	16·86	20·15
Scotland - - - -	719·7	6·05	29·44	29·27	10·68	14·84
Ireland - - - -	748·5	4·95	14·70	41·12	15·01	20·05
United Kingdom -	810·6	5·53	16·72	44·29	16·17	19·94

Calculated on strength, including men detached (England and Wales, 809; Scotland, 58; Ireland, 785) 1,652 in number.

Comparing the above with the corresponding table in the previous year it is observed that in England and Wales the admission rate shows an increase of 35·3 per 1,000, the death rate an increase of 1·06, and the constantly sick rate one of 2·79 per 1,000. The average sick time to each soldier was longer by just over a day, but the average duration of each case of sickness was shorter by almost a day. Compared with average ratios for the preceding four years there was an increase of 37·7 per 1,000 in admission rate, one of

·45 in the ratio of constantly sick, and a fractional increase in the mortality rate. The average sick time to each soldier and the average duration of each case of sickness were shorter by ·19 and 1·19 days respectively. *United Kingdom.*

The admission rate in Scotland was higher than that in the preceding year by 41·0 per 1,000, and the death rate by ·71, but the ratio of constantly sick shows a fractional decrease. The average sick time to each soldier was shorter by ·16 of a day, and the average duration of each case of sickness by 1·13 days. Compared with corresponding average ratios for four years preceding an increase of 41·2 per 1,000 is observed in the admission rate, one of ·10 in the mortality rate, and one of 2·81 in the ratio of constantly sick. The average sick time to each soldier was shorter by 1·03 days, and the average duration of each case of sickness by 2·42 days.

In Ireland as compared with the return for the preceding year an increase of 69·5 per 1,000 is observed in the admission rate, in the death rate one of ·71, and in the ratio of constant inefficiency through sickness one of 3·27 per 1,000. The average sick time to each soldier was longer by nearly a day and a quarter, and the average duration of each case of sickness shorter by ·30 of a day than the corresponding period in the preceding year. In comparison with average ratios for the previous four years an increase of 31·9 per 1,000 is observed in the admission ratio, and one of 1·15 in the constantly sick rate, but the death rate shows a fractional decline. The average sick time to each soldier and the average duration of each case of sickness were shorter by ·42 and ·31 of a day respectively.

The admission ratio for the United Kingdom taken as a whole shows an increase of 80·2 per 1,000 as compared with the previous year's result, the death rate shows an increase of ·96, and the rate of constant inefficiency through sickness one of 2·81. The average sick time to each soldier was longer than in the preceding year by slightly over a day, and the average duration of each case of sickness shorter by ·79 of a day. Compared with corresponding ratios for the preceding ten years a decrease is observed in all the rates of sickness and mortality, being 18·4 per 1,000 in the case of admission, ·57 in that of mortality, and 1·99 in that of constant inefficiency through sickness. The average sick time to each soldier and the average duration of each case of sickness were shorter than the corresponding decennial average periods by ·70 and ·41 respectively.

The total loss by death and final discharge from the service on account of medical unfitness was 2,265 men, being in the ratio of 22·25 per 1,000 of strength, which is higher than the ratio in the previous year by 1·79.

The more important statistics of sickness, mortality, and invaliding according to the different groups and orders of diseases are given for the whole of the troops in the United Kingdom in Abstract I., and for the troops quartered in the three great divisions of the kingdom, England and Wales, Scotland, and Ireland, in Abstracts A., B., and C.

General Diseases.—*Diseases dependent on morbid Poisons.*—The admissions for *eruptive fevers* numbered 619, and there were 4 deaths. The ratios per 1,000 of strength were, therefore, 6·2 and ·04 respectively, as compared with 6·1 and ·03 per 1,000 in the previous year, and with 6·4 and ·05, the average rates for the preceding five years.

There was not one case of *small-pox* recorded during the year; in the previous year 2 cases occurred, and the average number for the preceding five years was 10.

Scarlet fever caused 243 admissions and 3 deaths, being in the ratios of 2·4 and ·03 per 1,000 respectively. In the preceding year there were 164 cases and 1 death, the admission ratio being 1·6, while that of the average of the preceding five years was 1·5 per 1,000. Of the cases, 225 occurred in England and Wales, none in Scotland, and 18 in Ireland, as compared with 147, 8, and 9 respectively in the preceding year. Three of the districts, the North Western, Channel Islands, and North Britain, were not affected, but all the others were to some extent. The greatest number of cases in any one station was 80 at Woolwich, of which one proved fatal; the disease was also very prevalent among the civil population; the cases among the troops were mostly mild, and came from all parts of the barracks; in the preceding year there were only 7 cases among the troops. At Aldershot there were as many as 75

United Kingdom.

cases with 1 death, as compared with 26 in the previous year, but in 1888 there were 76; the disease was most prevalent during the first six months of the year, and in the west infantry barracks, which were vacated with good results. At Devonport there were 28 cases with one death, but this compares favourably with 55 in the preceding year. The three stations above mentioned gave, it will be observed, three fourths of the total number of admissions; the remaining fourth of the cases were scattered among as many as 20 stations. In London there were 13 admissions, at Chatham 8, at Belfast, Clonmel, Colchester, and Portsmouth, 4 each; at the Curragh 3, at Ipswich 3, at Boyle, Dublin, Templemore, Warley, and Caterham 2 respectively, and 7 single cases at as many separate stations.

Measles was the cause of 109 admissions and one death; in the preceding year there were 151 admissions and one death. The admission ratio, 1·1 per 1,000, is lower than that in the previous year by ·4, and lower than the average rate of the preceding five years by ·3. The number of admissions in England and Wales was 89, in Scotland 16, and in Ireland 4, as compared with 126, 11, and 14 respectively in the preceding year. One district in England, the Southern, and two in Ireland, the Cork and Curragh districts, were unaffected, but the disease appeared in the remainder, though in some instances only slightly. The greatest number of cases in any station was 23 in London, followed by 16 at Aldershot, 14 at Woolwich, 11 at Edinburgh, 8, one of which was fatal, at Caterham, 7 at Dover, 6 at Warley, 5 at Inverness, 4 each at Preston and Devonport, 2 at Shorncliffe, 2 at Dublin, and one case respectively at seven other stations.

There was one admission for epidemic rose-rash as compared with seven in the previous year; the case in the year under report occurred at Dover.

Of the remaining admissions for eruptive fevers, 4 were for chicken-pox and 262 for cow-pox; the numbers for those diseases having been 9 and 285 respectively in the previous year.

Enteric fever.—The admissions for this disease numbered 126, and the deaths 30; in the preceding year the corresponding numbers were 140 and 25. The admission ratio, 1·3 per 1,000, is lower by ·1 than that in the previous year, and than that of the average of the preceding ten years. The mortality rate, ·29 per 1,000, is greater than in 1889 by ·05; but slightly below the decennial average rate. The per-centage of mortality to attack was 23·9 as compared with 17·8 in the previous year, and 23·1 the average for ten years. In England and Wales alone 61 admissions and 13 deaths occurred, equal to ratios of ·9 and ·18 per 1,000 respectively. In the previous year the cases were 62 and the deaths 12 in number, the ratios also being almost the same. In Scotland there was only one admission, but that terminated fatally; the admission ratio was ·3 per 1,000. There was also one death of a man away from his regiment. In Ireland there were 64 admissions and 15 deaths as compared with 76 and 13 respectively in the previous year. The admission ratio, 2·6 per 1,000, is therefore lower by ·3, but the death-rate, ·58 per 1,000, higher by ·08. The mortality to attack in England was 21·3 per cent., an increase of 2·0, and that in Ireland 23·5, an increase of 6·4 per cent. In only one of the administrative districts, the Thames district, was there complete immunity from this disease, and the number of stations in which it appeared was 30. As in several preceding years, the station showing the greatest prevalence of enteric fever was Dublin, but in this respect the year under report compares favourably with the preceding year as the number of cases and deaths were 34 and 6 respectively, as compared with 63 cases and 8 deaths. This great decrease in the number of attacks is, however, entirely due to the fact that on account of the notorious prevalence of enteric fever therein, the Royal barracks were evacuated quite early in the year. In the preceding year these barracks accounted for 32 of the 63 attacks, while in the year under report only 3 cases are recorded. Excluding the Royal barracks, therefore, it will be seen that the cases from the remaining barracks in the garrison were just equal in number in the two years. There were 7 cases, two of which proved fatal, admitted from Ship Street barracks, and 6 cases, one of which died, from Linen Hall barracks; the sanitary condition of these barracks was not satisfactory, and they were both evacuated in August for two months. 5 cases occurred at Island Bridge barracks, one of which terminated fatally; there were 3 cases from Richmond barracks said to have been contracted outside, and 3 from

Pigeon House Fort could not be traced, but one possibly contracted elsewhere. At Beggars Bush barracks there were two cases, one fatal; but one of the men had recently returned from furlough, and the disease may, therefore, have originated in another place. At Portobello there were also 2 cases, cause not given, and at the Royal Infirmary there were 2 cases, the men being orderlies who had been in attendance on cases of this disease. In addition to the foregoing there was one case which was admitted from lodgings in Ship Street. In many of the above cases it has, perhaps, been impossible to ascertain exactly the cause, but great attention having been paid to the different barracks, various defects in sanitation have been brought to notice which may have probably materially assisted in their causation. Remedial measures and alterations required have been, and are still being carried out. The station which shows the next largest number of cases is Aldershot, where there were 18 admissions and 4 deaths, as compared with 8 admissions and one death in the previous year. It is said that the cases came from different parts of the camp, and in no instance could the cause of the attack be definitely ascertained. At Caterham there were 15 attacks and 2 deaths; the cases came from four blocks of barracks; in this instance the outbreak seems to have been doubtless due to certain important sanitary defects which were discovered to exist, and which were subsequently thoroughly rectified. At Ballincollig 11 cases and 1 death occurred; these are believed to have resulted from imperfection in drainage and contamination of the water supply. At Preston there were 6 cases, one of which died; the origin of these cases is doubtful, but it was thought that the water supply may have been contaminated. Of 4 cases, one fatal, admitted in London, three had lately arrived from Caterham, where, as shown above, there had been a serious outbreak of the disease, the other case was, it is understood, contracted out of barracks. At Manchester there were 3 cases and one death, which were not traced to any insanitary condition, and there were also 3 cases and one death at Bandon, all of which are said to have been imported, two from Ballincollig, where the disease was prevalent, and one from Kinsale. 2 fatal cases occurred at Woolwich, for one of them no cause could be traced, and the other was contracted on furlough. 2 fatal cases occurred also at Belfast, one that of a man on furlough in the city, the other was admitted from barracks, but cause not traced. At the Curragh there were 2 cases, one fatal, contracted on furlough at Newbridge, the other, cause not traced; at Templemore there were also 2 cases and one death; these were due to defective drainage and impurity of the water supply. At Kilkenny there were 2 cases, one contracted in the town and one probably at another station. At Fort Westmoreland there were 2 cases, contracted at Queenstown, and at Colchester and Norwich there were also 2 cases each, the causes of which were not discovered; all these cases recovered. There was a fatal case at Aberdeen, probably due to defective drainage, one at Alderney, due to opening some drains for repairs, one at Windsor and one at Naas, believed to have been contracted outside barracks. There were also single fatal cases at Newbridge and Ballinrobe, the causes of which were not definitely traced. There were single cases, recoveries, at the following stations: — Dover, contracted in the town; Shorncliffe, contracted elsewhere; York, contracted on furlough; Haulbowline, contracted at Queenstown; Fermoy, believed to have been due to faulty drainage; Warwick, contracted elsewhere; Brecon, contracted in the town; and Portsmouth, Warley, and Galway, for which no cause could be traced.

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Other Continued Fevers were the cause of 417 admissions, being in the ratio of 4·2 per 1,000, which is below the rate in the previous year by ·3, and below the average rate for the preceding four years by 1·9. In England and Wales alone the admission ratio was 2·9 per 1,000, a decline of ·9 from that in the previous year, and below the average rate of the previous four years by 1·9. In Scotland the ratio, 9·6 per 1,000, is higher than in 1889 by 4·7, and above the average rate by 2·2. In Ireland the ratio was 6·9 per 1,000, fractionally higher than in the preceding year, but below the average rate by 2·8. With regard to the different districts it is observed that the highest admission ratio, 57·6 per 1,000, was in the Channel Islands, followed by 15·7 in the Belfast district, 8·0 in the Cork district, and 9·6 in the North British district. In Woolwich the admission rate was *nil*, in the South-eastern district it only reached 1·1, and in the Eastern district, 2 2 per 1,000. In the preceding year the highest

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ratio was in the Belfast district, though it only reached 9 6 per 1,000; the lowest ratio was in the Woolwich district, the two next above being in the South-eastern and Eastern districts, as in the year under report. The admissions were all cases of simple continued fever or febricula.

Dysentery.—73 admissions and 2 deaths are shown under this head, being in the ratios of ·7 and ·02 per 1,000 respectively, which scarcely differ from the corresponding ratios in the preceding year, but are slightly below the average rates. In England there were 66 cases and one death, equal to ·9 and ·01 per 1,000, in Scotland there were no cases, and in Ireland there were 7 cases and one death, or ·3 and ·04 per 1,000 respectively. The greatest number of cases in any district was 20 in the Southern district, which gave the highest admission ratio, 2·3 per 1,000, next came 11 cases in the Eastern district, or 1·9 per 1,000, followed by 10 in Aldershot, or ·7 per 1,000, and by 7 in the South-eastern district, or ·9 per 1,000. In the North-eastern district, the Channel Islands, North Britain, and the Curragh no cases occurred. Of the deaths, one occurred at Portsmouth and one in Dublin. In the preceding year the highest admission ratio was in the South-eastern district.

Influenza.—Just at the close of the previous year a few cases of influenza occurred, which were the commencement of an epidemic that spread all over the country within the first three months of the year under report. The number of admissions in all was 6,584, and 8 deaths are recorded. The ratio of admission was 65·7, and that of death ·08 per 1,000. In England and Wales alone there were 4,841 cases, equal to an admission rate of 67·7 per 1,000; in Scotland there were 92 cases, or 24·5 per 1,000, and in Ireland there were 1,651 cases, or at the rate of 66·4 per 1,000. Four of the deaths occurred in England and four in Ireland. Every district was more or less affected with the disease. The greatest number of cases in any one district was 928 in the Home district, giving the highest admission rate, 123·1 per 1,000, the next ratio of prevalence was 113·7 per 1,000 in the Eastern district, followed by 104·8 in the Dublin district, 81·1 in Woolwich, 76·4 in the South-eastern district, 70 8 in the Cork district, 69·8 in the Southern district, 58·8 in the Thames district, 57·6 in the Channel Islands, 56·9 in Aldershot, 46·9 in the Western district, 30·3 at the Curragh, 24·5 in North Britain, 18·3 in the North-western district, 17·6 in the Belfast district, and 16·3 in the North-eastern district. Among individual stations Aldershot had 794 cases, Dublin 651, Woolwich 488, Colchester 365, Dover 230 (of which only 3 occurred at the Castle, the remainder at the Western heights), and many others with large numbers. The majority of the cases were mild, necessitating only a few days in hospital, but some were of a far more serious character, attended by great prostration and followed by extreme debility. In many instances the cases were complicated by more or less serious lung affections. The deaths recorded as directly due to influenza were eight in number, three at Dublin, and one at Warley, Portsmouth, London, Aldershot, and Fermoy respectively.

The admissions for other diseases of the first sub-group were 87, giving a ratio of 9 per 1,000. Of the cases 78 were in England, 5 in Scotland, and 4 in Ireland. The diseases were, mumps 81 cases, and diphtheria 6 cases, and one death. The cases of diphtheria occurred as follows:—Two at Ipswich, and one at Glencorse, Chatham, Woolwich, and Aldershot respectively; all the foregoing recovered, but a fatal case occurred in a man on furlough.

Malarial Fevers.—The number of admissions was 698, and there was one death. The ratio of admissions was 7·0, which was higher than in the previous year by ·5, and higher by 1·2 than the average rate in the preceding five years. In England and Wales the admissions numbered 635, equal to 8·9 per 1,000, which is higher than in the previous year by ·5, and above the average rate of the four years preceding by 2·3. In Scotland there were only 7 admissions, or 1·9 per 1,000, a slight increase on the last year's rate, though below the average rate. In Ireland 56 cases gave a ratio of 2·3 per 1,000, an increase of ·6 on the last year, but below the average rate. With regard to the different districts it is found that the highest admission rate was 35·2 per 1,000 in the Eastern district, next 16·1 in the North-eastern district, and 15·3 in the South-eastern district; the lowest ratio was ·4 per 1,000 in the Home district, ·5 in the Belfast district, and ·6 in the Channel Islands. In the preceding year the highest admission rate was in the North-western district, but the lowest

also in the Home district. Out of the total number of admissions for malarial fevers only six are returned under the head of remittent fever, all the remainder being cases of ague. The death occurred in a man detached from his corps, and the cause of it is recorded as ague.

Septic Diseases.—227 admissions and 6 deaths are recorded, being in the ratios of 2·3 and ·06 per 1,000, as compared with 2·2 and ·10 in the preceding year, and with average rates of 2·4 and ·08 respectively. In England and Wales alone there were 173 admissions and 4 deaths, being equal to ratios of 2·4 and ·06 per 1,000 respectively. In the previous year, the admission ratio was the same, but the death rate was ·11. In Scotland there were 8 admissions but no death, the ratio of admission, 2·1 per 1,000, is lower than in the preceding year by 2·8. In Ireland 46 cases and 2 deaths were returned, being in the ratios of 1·9 and ·08 per 1,000, as compared with 1·3 and ·04 in the preceding year. Erysipelas alone caused 219 admissions and 3 deaths, the admission ratio, 2·2 per 1,000, being almost identical with that in the preceding year. The cases were scattered over 51 stations in different parts of the kingdom. The station showing the greatest number of cases was Aldershot with 54, next Woolwich with 26, Dublin with 15, Belfast with 12, and Colchester and London with 11 respectively. At the remaining stations where cases occurred they did not reach double numbers. The deaths were 2 at Dublin and 1 at Portsmouth. Pyæmia caused 5 admissions, one at the Curragh, Devizes, Chatham, Woolwich, and Aldershot respectively, the two last named terminated fatally. Two cases of septicæmia are recorded, one in London and one at Cork, but both of them recovered; and there was one case of sloughing phagedæna, fatal, at Aldershot.

Venereal Diseases.—The admission for *primary syphilis* were 6,924 in number, equal to a ratio of 69·1 per 1,000, which is higher than the corresponding rate in the previous year by 7·3, but below the average rate of the preceding four years by 3·2. The ratio of men constantly sick was 6·46 per 1,000, which is higher than in the previous year by ·67, but lower than the average rate by ·13. In England and Wales alone the admission ratio reached 75·5 per 1,000, and the constantly sick rate 7·04, which are higher than the similar rates in the preceding year by 10·0 and ·78 respectively, but are just below, by 1·1 and ·02 respectively, the corresponding average ratios. In Scotland there is a considerable decline in admission rate as compared with that in the previous year, it having fallen to 20·3 per 1,000 from 36·8, and from an average rate of 38·0. The number constantly sick, 1·97 per 1,000, has also declined in these comparisons by ·86 from the last year's rate, and by 1·03 from the average rate. In Ireland the admission ratio was 58·3 per 1,000, and the constantly sick rate 5·48, which are above the corresponding results in the previous year by 3·4 and ·55, and below the similar average rates by 7·1 and ·33 respectively. The highest admission ratio for primary syphilis in any district was 110·4 per 1,000 in the Home district, and only differs by a decrease of 1·3 from the highest rate in the previous year, also in that district, the next ratio was 105·5 at Aldershot, which shows an increase of as much as 44·8, followed by 86·9 in the Southern district, an increase of 20·2; the lowest admission rate was 20·3 per 1,000 in the North British district, and this has declined by 16·5 from the corresponding rate in the previous year, the ratios next above were 24·6 in the Channel Isles, and 26·7 in the Cork district, the former showing a decrease of 7·9, and the later an increase of 3·7.

Simple venereal ulcer was the cause of 1,656 admissions, and 115·59 men were constantly sick from this affection; the ratios, therefore, were 16·5 and 1·15 per 1,000 respectively. In England and Wales alone the admissions were 1,174, and the constantly sick 80·64, the former being in the ratio of 16·4 and the latter in that of 1·13 per 1,000. In Scotland 83 admissions were returned, 5·25 men were constantly sick, the ratios being 22·2 and 1·40 per 1,000 respectively. In Ireland the admissions numbered 399, or 16·1 per 1,000, and the constantly sick 29·70, or 1·19 per 1,000. If the sickness on account of this affection be added to that from primary syphilis, it will be found that the admission ratio for primary venereal sores in the United Kingdom during the year was equal to 85·7 per 1,000, which is higher than the corresponding rate in the previous year by 2·2, but lower than the average rate for the preceding five years by 19·5. The ratio constantly sick was 7·61 per 1,000, an increase of ·19 as compared with the previous year's rate, but a decrease of

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3·57 as compared with the five years' average rate. In England and Wales the admission rate was 91·9, and the constantly sick rate 8·16 per 1,000, which are higher than the corresponding ratios in the preceding year by 3·3 and ·08 respectively, but are lower than the similar ratios in the preceding four years by 14·3 and 1·08 per 1,000. In Scotland the admission rate was 42·4 and the constantly sick rate 3·37 per 1,000, as compared with 62·2 and 4·36 in the previous year, and with 65·4 and 4·68, the average rates. In Ireland the ratio of admission was 74·3 and that of constant inefficiency 6·68 per 1,000; the corresponding ratios in the previous year having been 72·4 and 6·01, and the average ratios 88·7 and 7·32 per 1,000. The three districts showing the highest admission rates were the same as in the case of primary syphilis, the Home with 114·5, Aldershot with 114·0, and the Southern with 105·1 per 1,000; the lowest ratio was 40·0 per 1,000 in the Curragh district, the next above being 42·4 in the North British district, and 54·7 in the North-western district. Compared with corresponding ratios in the previous year increase of admission rate is observed in one half of the districts, and decrease in the other. The most marked instances of increase are 28·0 per 1,000 in the Aldershot district, 21·2 in the Woolwich district, and 14·9 in the Southern district, while decrease is observed chiefly in the North-western, North-eastern, and North British districts, being 22·0, 21·4, and 19·8 per 1,000 respectively.

Secondary Syphilis.—The admissions for this cause were, in the United Kingdom, 3,734 in number, and there were 3 deaths. The ratio of admission, therefore, was 37·3 and that of constant inefficiency 3·49 per 1,000, which are higher than the corresponding ratios in the previous year by 1·6 and ·19, and than the similar average ratios for the preceding five years by 1·2 and ·33 respectively. In England and Wales alone the admission ratio reached 39.1 and the constantly sick rate 3·70 per 1,000, the former being higher by 3·6 and the latter by ·31 than those in the previous year's return, but compared with average ratios for the preceding four years the admission rate is lower by 1·2, though the constantly sick rate is higher by ·05. In Scotland the admission rate was 26·7 per 1,000, a decrease of as much as 22·3 from the previous year's rate, and of 9·9 from the average rate of four years; the constantly sick rate was 1·93 per 1,000, a decline of 1·49 from the rate in 1889, and of ·70 from the average rate. In Ireland the admission rate was 33·6 and the constantly sick rate 3·11 per 1,000, which differ in each case only by a very small fraction from the corresponding rate in the previous year, but are higher than the average rates of four years by 1·4 and ·42 respectively. The highest admission ratio in any district was 61·8 per 1,000 in the Eastern district, followed by 55·2 in the Southern district, and 51·4 in the Dublin district; the lowest ratio was 21·1 in the Cork district, the next above being 23·5 in the North-western district, and 26·7 in the North British district. Compared with corresponding ratios in the preceding year increase of admission rate is observed in eight districts, notably in the Eastern district by 22·6, and in the Southern by 9·8; among the districts showing decrease are the North British by 22·3, Aldershot by 10·9, and the North-western by 9·4 per 1,000.

Gonorrhœa.—The admissions are shown as 8,948, and the constantly sick 597·73, taking the United Kingdom as a whole. The admission ratio, therefore, was 89·4 and the constantly sick rate 5·97 per 1,000. Compared with corresponding ratios in the preceding year a decrease of 3·5 is observed in the admission rate, and one of ·28 in the constantly sick rate, and compared with similar average ratios for the preceding five years the rate of admission shows a decline of 14·5 and that of constant inefficiency one of ·55 per 1,000. In England and Wales alone the admission ratio equalled 92·7, and the constantly sick rate 6·11 per 1,000. The admission rate is lower than that in the preceding year by 1·2, and than that of the average of the previous four years by 8·8; the constantly sick rate also shows a decline in both these comparisons by ·29 and ·52 respectively. In Scotland the admission and constantly sick ratios were 60·0 and 2·93 per 1,000 respectively, as compared with 67·7 and 3·32 in the previous year, and with 78·2 and 3·72, the average ratios for the previous four years. In Ireland the admission rate was 84·1 per 1,000, which is lower than in the previous year by 9·6, and than the average rate for four years by 15·3, while the constantly sick rate, 6·01 per 1,000, is lower than in 1889 by ·25, and than the average rate by ·16. Among the different districts the highest admission rate was in the Dublin district, 114·8 per 1,000,

followed by the Channel Islands with 106·4, and the Home district with 105·9. The lowest ratio was in the Curragh, 50·5, the next above in North Britain, 60·0, and the Thames district, 72·7 per 1,000. Compared with results in the previous year the admission ratios for gonorrhœa have declined in twelve out of the sixteen districts, in the Eastern district by as much as 27·2, in the North-eastern by 18·3, in the Southern by 16·8, and in the Thames by 16·6. In the Woolwich, Aldershot, and South-eastern districts the ratios have increased by 23·7, 17·7, and 5·8 respectively, while in the Home district the ratio remains unchanged. *United Kingdom.*

Taking all forms of venereal disease together, the admissions numbered 21,262, and the constantly sick 1709·35. The total ratio of admission, therefore, was 212·4 per 1,000, which differs only fractionally from the corresponding rate in the previous year, but is below the average rate for the preceding five years by 32·8. The total ratio of constant inefficiency on account of these diseases was 17·07 per 1,000, which is fractionally above the last year's rate, but lower than the quinquennial average rate by 3·79. In England and Wales alone the admission rate was 223·7 and the constantly sick rate 17·97 per 1,000, as compared with 218·0 and 17·87 in the previous year, and with 248·0 and 19·52, the average ratios of the previous four years. In Scotland the total admission rate was 129·2 per 1,000, which is below the corresponding rate in 1889 by 49·7, and below the average rate by 51·0. The total constantly sick rate was 8·23 per 1,000, a decline of 2·87 from the rate in the preceding year, and of 2·80 from the average rate. In Ireland the total admission rate was 192·1, and the total rate of constant inefficiency 15·30 per 1,000, as compared with 200·5 and 15·31 in the preceding year respectively, and with 220·3 and 16·18, the average rates for the previous four years. The greatest prevalence of venereal disease was in the Dublin district, the admission ratio being 264·9 per 1,000, followed by the Home district with 264·7, and the Southern district with 263·3. After these the prevalence of disease in the different districts was in the following order:—Aldershot 250·6, Woolwich 238·7, Eastern 226·3, Western 212·9, Channel Isles 202·4, Belfast 195·9, Thames 183·4, North-eastern 181·0, South-eastern 175·0, North-western 163·7, Curragh 163·0, Cork 135·4, and North Britain 129·1 per 1,000. Compared with corresponding results in the previous year decrease of admission rate has occurred in eleven districts, in the North British by as much as 69·8, in the North-western by 43·8, and in the North-eastern by 35·2. In the Aldershot district the admission rate increased by 49·3, in Woolwich by 45·3, in the Southern district by 23·5, and in the South-eastern by 37·1. In the Home district the admission rate was almost identical with that in the preceding year.

Parasitic Diseases.—The admissions numbered 46, of which all but four were cases of tænia solium. In the preceding year 53 admissions occurred.

In the next sub-group of diseases, those due to errors in diet, 7 admissions for *scurvy* are shown, as compared with 8 in the previous year. The number of admissions under the head of *alcoholism* was 269, equal to a ratio of 2·7 per 1,000, which is almost identical with the corresponding rate in the previous year, but rather below the average rate. In England and Wales the rate was 3·0 per 1,000, an increase of ·5; in Scotland it was 4·5, an increase of ·2; and in Ireland it was 1·6, a decrease of ·8. Out of the total number of admissions 20 were cases of delirium tremens. There were 4 deaths, two returned as alcholism and two as delirium tremens.

In the next group of diseases, *debility, malformations, &c.*, 802 admissions are recorded, being in the ratio of 8·0 per 1,000, which is slightly above the rate in the previous year and above the average rate. In England and Wales the rate was 8·1, an increase of ·9; in Scotland 4·8, a decrease of 2·0; and in Ireland 8·1, a decrease of 1·7. Out of the total number of admissions 16 were cases of some kind of malformation.

Rheumatism.—3,759 admissions are returned and 6 deaths. The admission ratio was 37·5 per 1,000, which is above the rate in the previous year by 1·6, but below the average rate for the preceding five years by 2·5. In England and Wales the admission rate was 40·5 per 1,000, fractionally above the corresponding rate in the previous year and the average rate; in Scotland the rate was 30·7 per 1,000, an increase of 9·0, and also somewhat above the average rate; in Ireland the ratio was 30·1 per 1,000, an increase of 3·6, but

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below the average rate. The highest admission ratio in any district was 54·2 per 1,000 in the Eastern district, followed by 48·4 in the Thames district, and 46·7 in Aldershot; the lowest ratio was 25·3 in Belfast, the next above being 25·8 in the Channel Islands, 26·7 in the Curragh, and 29·9 in the Cork district. In the preceding year the highest admission rate was in Aldershot and the lowest in North Britain. Out of the total number of admissions there were 333 cases of rheumatic fever, of which 287 occurred in England, 7 in Scotland, and 39 in Ireland. Six deaths occurred, four in England and two in Ireland.

Tubercular Diseases.—389 admissions and 104 deaths are recorded, 14 of the latter occurred amongst men absent from their corps. The admission ratio in the United Kingdom was 3·9 and the death rate 1·02 per 1,000, as compared with 3·6 and ·92 in the previous year, and with 3·7 and 1·05 respectively the average ratios for the preceding four years. In England and Wales alone the admission rate was 4·0 and the death rate 1·07 per 1,000, which are slightly in excess of the corresponding rates in the previous year, and also above the average rates. In Scotland the admission rate was 3·5 and the death rate 1·05 per 1,000, also higher than in 1889, and above average rates; and in Ireland the admission rate was 3·5 and the death rate ·90 per 1,000, as compared with 3·0 and ·75 in the previous year, and 3·3 and ·93 average rates. With regard to the districts the highest admission rate was 5·4 per 1,000 in the Channel Isles, the next 5·3 in the Home district, and 5·2 in the Southern district; the lowest ratio was 2·1 in the Western district, the next above being 2·7 in the North-western district, and 3·1 in the North-eastern and Dublin districts. In the previous year the Eastern district gave the highest admission rate and the Western the lowest. Of the deaths occurring with the corps, 15 happened in the Southern district, 10 at Aldershot, 7 in the Dublin district, 6 each in the Thames and Home districts, 5 in the South-eastern, Woolwich, Belfast, and Curragh districts, 4 in North Britain, 3 each in the North-western, Eastern, and Western districts, and 2 in the North-eastern and Cork districts and Channel Islands respectively. Of the total number of admissions 374 were cases of tubercular disease of the lungs, and of the deaths 96 were due to this cause.

Other diseases of this group cause 484 admissions and 12 deaths, being in the ratios of 4·8 and ·12 per 1,000 respectively, as compared with 5·3 and ·10 in the previous year. Among the admissions were 320 for non-malignant new growths, 76 for anæmia, 63 for scrofula, 15 for malignant disease, 4 for diabetes, 4 for purpura, one for glycosuria, and one for rickets. Of the deaths 8 were caused by malignant disease, one by non-malignant tumour, one by scrofula, one by diabetes, and one by purpura.

Local Diseases.—*Diseases of the Nervous System.*—In the United Kingdom there were 934 admissions and 36 deaths from these diseases, being in the ratios of 9·3 and ·35 per 1,000 respectively, as compared with 8·9 and ·25 in the previous year, and with 9·8 and ·42, the average rates for the five preceding years. In England and Wales the admission rate was 9·5 and the death rate ·34 per 1,000. The admission rate is almost identical with that of the previous year and that of the average of the preceding four years, but the death rate is higher than in 1889 by ·11, and lower than the average by ·07. In Scotland the admission rate was 11·0 and the death rate ·53 per 1,000, as compared with 7·0 and ·27 in the previous year, and with the average rates 7·9 and ·20 respectively. In Ireland the admission rate was 8·8 per 1,000, in excess of that in the previous year by 1·1, but almost the same as the average rate. The death rate, ·35 per 1,000, does not differ much in either comparison. The highest admission ratio in any district was 15·8 per 1,000 in the South-eastern district, the next 11·0 in North Britain, and 10·8 in the Southern district; the lowest admission rate was 4·1 in the Woolwich district, the next above being 6·1 and 6·2 in the Home and Thames districts respectively. Taking mental disease by itself, it is found that there were in all 132 admissions, or 1·3 per 1,000, as compared with 1·2 in the previous year. In England and Wales the ratio was 1·2 and in Scotland 1·9 per 1,000, the same as in the preceding year, but in Ireland the rate was 1·7 per 1,000, an increase of ·5. The diseases causing most admissions were neuralgia and epilepsy, 452 and 200 respectively, and among the remaining admissions were 45 for paralysis, 22 for inflammation of the brain or its membranes, and 4 for apoplexy. The

causes of death were inflammation of the brain or its membranes 16 cases, abscess of brain 8, apoplexy 7, tetanus 3, and softening of the brain and general paralysis of the insane one case respectively. *United Kingdom.*

Diseases of the Eye were the cause of 1,178 admissions, being in the ratio of 11·8 per 1,000, which is lower than the rate in the preceding year, and than the quinquennial average rate by 1·0. In England and Wales the admission rate was 11·0 per 1,000, a decline of 1·8 from the previous year's rate, and also below the average rate. In Scotland 12·0 per 1,000 was the admission rate, in excess of the rate in 1889 by 2·0, and above the average rate. In Ireland the admission rate was 13·8 per 1,000, an increase in both comparisons. Of the different districts the Eastern gave the highest rate of prevalence of these diseases, 19·9 per 1,000, followed by the Belfast district with 17·3, and the Cork district with 16 2; the lowest ratios were 7·5 at Woolwich, 7·8 in the Channel Isles, and 9·1 in the Home and North-eastern districts. Out of the total number of admissions, 778 were for simple conjunctivitis and 91 for iritis. The remainder were for various affections.

Diseases of other Organs of Special Sense.—Under this head 809 admissions and 2 deaths are recorded. The admission rate, 8·1 per 1,000, is in excess of that in the preceding year by ·9, and above the quinquennial average rate by 1·3. In England and Wales the ratio, 8·6 per 1,000, shows an increase of 1·0 on the rate in 1889; in Scotland the ratio, 6·7, is lower by ·3, and in Ireland the ratio, 6·8, is higher by ·5. Among the districts the admission ratios were highest in the Aldershot and South-eastern districts, 12·1 and 11·0 per 1,000 respectively, and lowest in North Britain, 3·3, and the Home district, 5·1 per 1,000. Of the admissions, 50 were cases of nasal affection, and the remainder aural disease, and of the latter no fewer than 549 were cases of inflammation of the external meatus. The two deaths resulted from aural disease.

Diseases of the Circulatory System caused 872 admissions and 35 deaths, being in the ratios of 8·7 and ·34 per 1,000 respectively. The admission rate is lower than that in the previous year by 2·4, and than the quinquennial average rate by 1·3, while the death rate is reduced in these comparisons by ·16 and ·10 respectively. In England and Wales the admission rate was 8·3 and the death rate ·36 per 1,000, below the rates in the preceding year by 3·0 and ·16, and below the average rates of four years by 2·5 and ·10 respectively. In Scotland the admission rate was 18·7 per 1,000, a good deal in excess of the last year's rate as well as of the average, but the death rate, ·53 per 1,000, shows a decrease. In Ireland the ratio of admission was 8·4 and the death rate ·27 per 1,000, as compared with 10·5 and ·38 in the previous year, and 8·0 and ·40 average rates. The highest prevalence of these affections in any district was in North Britain, the ratio being 18·7 per 1,000, the next in the Cork district, 11·1, followed by Aldershot, 10·9; the least prevalence was in Woolwich, the rate being only 2·3 per 1,000, the next above being in the North-western and Belfast districts, 4·1 and 5·5 respectively. Of the admissions, palpitation was the most frequent cause, as many as 390 cases being recorded, next was valvular disease of the heart with 273 cases, and varicose veins with 138 cases. The causes of death were valvular disease of the heart 23 cases, pericarditis 4, fatty degeneration of the heart 2, aneurysm 3, and hypertrophy of the heart, endocarditis, and phlebitis one case respectively.

Diseases of the Respiratory System.—The admissions numbered 7,263 and the deaths 181, being in the ratios of 72·5 and 1·78 per 1,000. The ratio of admission is in excess of that in the previous year by 15·5, and of the quinquennial average rate by 7·6, and the mortality rate is also increased in both these comparisons by ·81 and ·46 respectively. In England and Wales alone the admission rate was 75·1 and the death rate 1·99 per 1,000, the former being higher by 14·0 and the latter by ·96 than the corresponding rate in the previous year, and by 7·1 and ·64 than the average rates for the preceding four years. In Scotland the admission rate was 71·8 and the death rate 1·58 per 1,000, the former being higher than in the preceding year by 19·6, and than the average rate by 13·1, but the latter lower in these comparisons by ·28 and ·34 respectively. In Ireland the admission and mortality rates were 65·4 and 1·21 per 1,000, as compared with 46·5 and ·68 in the preceding year, and with 52·8 and 1·07 average rates. With regard to the different districts the

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highest ratio of prevalence of these diseases was 114·4 per 1,000 in the South-eastern district, followed by 92·7 in the North-western and 88 8 in the North-eastern district; the lowest ratio was 40·2 in the Woolwich district, 43·2 in the Channel Islands, and 48·6 in the Curragh district. Compared with corresponding ratios in the previous year there is observed a very general increase in the ratios in the different districts, due in great measure to increased prevalence of respiratory affections in the earlier part of the year when influenza was epidemic. Of the total number of admissions more than three fourths were cases of bronchitic affections, and among the remainder were 876 cases of pneumonia, 330 of pleurisy, 107 of laryngitis, and 44 of asthma. The deaths were caused by pneumonia in 131 instances, pneumonic phthisis in 23, bronchitis in 13, pleurisy in 5, laryngitis in 4, empyema in 2, and asthma, pulmonary hæmorrhage, and œdema glottidis in one instance respectively.

Diseases of the Digestive System were the cause of 10,750 admissions and 29 deaths; the ratios of admission and mortality were, therefore, 107·4 and ·28 per 1,000. Compared with corresponding results in the previous year the admission rate shows an increase of 6·0 and the death rate a decrease of ·10, and compared with quinquennial average ratios the former is higher by 5·8 and the latter by ·15. In England and Wales alone the ratio of admission was 113·8 and the death rate ·30 per 1,000, the former being higher than in the previous year by 6·9, and than the average of four years by 10·3, while the latter is lower in these comparisons by ·9 and ·13 respectively. In Scotland the ratios of admissions and mortality were 110·0 and ·26 per 1,000, as compared with 102·8 and ·27 in the previous year, and with 89·3 and ·34 average rates. In Ireland the admission rate was 88·5 and the mortality rate ·19 per 1,000, the former is in excess of that in 1889 by 2·5 and just above the average rate, while the latter is lower in both comparisons, by ·19 and ·09 respectively. The highest ratio of prevalence of digestive disorders in any district was 139·9 per 1,000 in Aldershot, the next being 134·8 in Woolwich, and 134·6 in the Eastern district; the lowest ratio was 74·0 at the Curragh, the next above being 81·4 in the North-western and 83·1 in the North-eastern district. Of the cases treated 7,030, or almost two-thirds of the whole number, were affections of the mouth or throat, next in frequency came dyspepsia with 1,493 cases, diarrhœa with 585, and hepatic affections 421, including 262 of jaundice and 10 of hepatic abscess. The deaths were 8 from peritonitis, 7 from abscess of the liver, 6 from hepatitis, 3 from cirrhosis of the liver, and one from diarrhœa, perityphlitis, gastritis, and intestinal ulceration respectively.

Diseases of the Lymphatic and Glandular System.—1,549 admissions and one death were returned. The ratio of admission was, therefore, 15·5 per 1,000, which is lower than in the previous year by ·3, and than the quinquennial average rate by 3·4. In England and Wales the admission rate was 16·5, just below the last year's rate, and below the average rate by 3·8; in Scotland the rate was 6·4, a decline of 3·9 from the rate in the previous year and considerably below the average; and in Ireland the rate was 13·8, about the same as in 1889, but below the average. The greatest prevalence of these affections in the districts was in Aldershot, the rate being 25·3, and next in Dublin 22·3 per 1,000; the least prevalence was in North Britain 6·4, and next in Belfast 8·2. The greater part of the admissions were for inflammation and suppuration of glands, and there were 26 cases of diseases of the spleen.

Diseases of the Urinary System caused 195 admissions and 15 deaths, being in the ratios of 1·9 and ·15 per 1,000, as compared with 2·3 and ·12 in the previous year, and with 2·3 and ·18 the average rates for the preceding four years. In England and Wales the admission ratio was 1·8 and the death rate ·18 per 1,000, the former being rather below and the latter just above the corresponding ratio in the preceding year, which was also the case with regard to average rates. In Scotland the admission rate, 3·2 per 1,000, is in excess of the last year's rate and of the average rate, and there was no mortality. In Ireland the admission rate was 2·1 and the death rate ·08 per 1,000, as compared with 2·5 and ·04 in the previous year, and with 2·0 and ·16 average rates. The highest ratio of prevalence in any district was, 5·4, in the Channel Isles, and the lowest, ·6, in the North-eastern. The principal causes of admission were incontinence of urine 92 cases, Bright's disease 25, nephritis 27, and

cystitis 22 cases. The deaths were returned as follows :—Bright's disease 10, nephritis 4, and renal abscess one. *United Kingdom.*

Diseases of the Generative System.—3,044 admissions are returned of which 1,656 were cases of simple venereal ulcer. The admission rate, 30·4 per 1,000, is lower than in the previous year by 7·1, and than the average rate of four years by 16·6. In England and Wales the admission ratio was 29·0, a decrease of 8·9 from the previous year and considerably below the average; in Scotland the ratio was 36·6, also a decline in both these comparisons, and in Ireland the ratio 33·5 is also lower to some extent. The ratios of prevalence in the different districts varied from 54·4 per 1,000 in the Western district, and 47·4 in Woolwich to 17·7 in the Home district, and 19·5 in the Thames district: The principal causes of admission, apart from simple venereal ulcer, were orchitis 575 cases, balanitis 499, and urethral stricture 94 cases.

Diseases of the Organs of Locomotion were the cause of 779 admissions and 3 deaths. The admission ratio, 7·8 per 1,000, is higher by 1·0 than in the previous year, and by 1·1 than the quinquennial average rate. In England and Wales the admission ratio was 7·3 per 1,000, an increase of ·6 on the last year's rate, and on the average rate; in Scotland the rate was 13·3, above the rate in 1889 by 4·1, and considerably above the average rate; and in Ireland the ratio, 8·3, is above the last year's rate by 1·6, and the average by 1·5. The highest admission ratio in any district was 13·3 per 1,000 in North Britain, the next being 12·4 in the Curragh; the lowest ratios were 4·1 in the Woolwich and Belfast districts. The chief cause of admission was synovitis, and among the remainder were 81 cases of ostitis, 74 of necrosis, and 15 of caries. Three deaths are returned from caries.

Diseases of the Connective Tissue.—2,223 admissions are returned, equal to a ratio of 22·3 per 1,000, which differs only fractionally from the last year's rate, and from the average rate. In England and Wales the admission ratio was 21·5, in Scotland 38·4, and in Ireland 22·1 per 1,000, as compared with 21·9, 27·9, and 21·7 respectively in the preceding year. The highest ratio in any district was 38·4 per 1,000 in North Britain, and the lowest 11·6 at Woolwich. Two-thirds of the admissions were cases of abscess, and one death is returned from ischio-rectal abscess.

Diseases of the Skin.—The admissions were 7,027 in number, giving a ratio of 70·2 per 1,000, which is below the corresponding rate in the preceding year by 6·3, and below the quinquennial average rate by 12·9. In England and Wales the admission ratio was the same, 70·2, but it is lower by 5·5 than in the previous year and a good deal below the average rate. In Scotland the ratio was 74·5, a reduction of 4·3 from the last year's rate, and below the average by 9·2. In Ireland the admission ratio was 69·4, a decline of 8·9 from the ratio in 1889, and below the average rate by 6·1. The highest ratio of prevalence of cutaneous affections was 87·3 per 1,000 in the North-western district, followed by 85·8 in the Channel Islands, and 82·9 in the Southern district; the lowest ratio was 46·8 at Woolwich, the next above being 53·2 in the Thames district, and 57·7 in the Home district. The most frequent cause of admission was itch, more than a third of the whole being due to this cause; next in frequency were boils, ulcers, eczema, whitlows, &c.

Poisons.—The number of admissions on account of poisons was 8, and there were 2 deaths; in the previous year there were 6 admissions and 8 deaths. Two of the cases were poisoning by oxalic acid taken with suicidal intent, one died, but the other recovered under treatment. There was also a fatal case of poisoning by cyanide of potassium, suicidal. Two admissions are shown from eating poisonous fish, and one from being stung by a poisonous fish. There were two cases of lead poisoning, one of accidental poisoning by some patent medicine, and one of poisoning by white precipitate of mercury taken apparently with suicidal intent; all these cases recovered.

Injuries.—The admissions on account of injuries of all kinds were 10,058 in number, and there were 78 deaths, being in the ratios of 100·4 and ·76 per 1,000 respectively, as compared with 93·5 and ·61 per 1,000 in the preceding year, and with 98·7 and ·75 per 1,000 the corresponding average ratios for the preceding quinquennial period.

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There were 13 admissions for general injury and 43 deaths, as compared with 11 admissions and 27 deaths in the preceding year. Multiple injury caused 4 admissions and 4 deaths; among the cases were, one resulting from a fall into the ditch surrounding a fort, one from the blowing up of a powder magazine, and one from jumping from a height with suicidal intent, all of which were fatal, there was also a case due to the premature explosion of a gun, by which the man sustained several severe injuries, and which ultimately proved fatal from the supervention of tetanus. There were 32 deaths from drowning, of which 24 are shown as accidental, 7 are returned as found drowned, and in one case particulars were not forthcoming. Three admissions are shown from sunstroke, and one death is returned. An admission is shown under the head of exhaustion, the case was that of a boy who had attempted to rescue a girl from drowning; and one death is returned from exhaustion from cold while in a state of intoxication. Two admissions and one death from lightning stroke are recorded; a number of men were under a tree which was struck by lightning, one man was killed outright, two injured to some extent, and five slightly scorched. There were two deaths from hanging, suicidal, and one returned as asphyxia by strangulation, accidental, while in a drunken condition, also one death from asphyxia from pressure of bedclothes, it is stated that the man was in a state of intoxication, and probably also had had an epileptic fit.

Local injuries were the cause of 10,045 admissions and 35 deaths, the numbers in the preceding year having been 9,913 and 36. Among the causes of admission the most frequent were, as usual, contusions, wounds, and sprains. Gunshot wound was the cause of 16 deaths, of which 13 were suicidal, and 3 accidental. There were also 33 admissions for gunshot wound, mostly resulting from accidents while at practice, a few of these injuries were serious, but all recovered. There were four cases of cut-throat, suicidal, with fatal result in three instances, but the fourth recovered under treatment. One death returned as wound was a case of murder, a man having been stabbed by a civilian. There were 23 admissions for concussion of the brain, and 2 deaths, both of which resulted from accidental falls; there was also one death from compression of the brain, the result of a fall from a horse. Two deaths are returned from fracture of the skull, in one case the injury was accidental, and in the other it was received in a drunken riot; there were three deaths from fracture of the base of the skull, all accidental from falls; there was one death from fracture of the spine, accidental, one from fracture of the spine with concussion of the cord, received at football, and one from fracture of the cervical vertebræ from a diving accident whilst bathing. One death took place from rupture of the spleen, a horse having fallen and rolled on a man, and two deaths from contusion with rupture of viscera, in one case from a horse accident, and in the other from a fall from a window.

There were 21 cases of suicide during the year among the troops serving in the United Kingdom. In the preceding year the number was 17, and the average number for the previous ten years was 20. Gunshot was the mode of suicide adopted in 13 instances, and there were three cases of cut-throat, two of hanging, two of poison, and one of multiple injury. With regard to motive none was ascertained in fourteen cases, but two were due to pecuniary difficulties, two to mental depression, one to jealousy, one more or less to drink, and one is thought to have been due to dislike to the service. Out of the total number of cases a verdict of temporary insanity was recorded in eighteen instances, in two cases a verdict of suicide was returned, and in one case no inquest was held. The average age of the men who committed suicide was 25⅓ years, and their average service 6⅓ years.

Of three attempts at suicide two were by poison and one by cut-throat. In two of the cases the motive was not stated, but in one the man was suffering from melancholia.

Among the surgical operations performed in the course of the year may be mentioned an amputation of the thigh at the upper third, undertaken on account of compound comminuted fracture of the femur, but death ensued four days after operation; and an amputation of thigh at middle third for traumatic aneurysm. There were four amputations of the leg, one on account of syphilitic disease, one on account of gun-shot wound of the ankle, one after compound fracture of both bones, and one on account of scrofulous disease,

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each of which gave a satisfactory result. An amputation of the forearm was necessary in a case of multiple injury, but the man subsequently died from tetanus. Several amputations of fingers or toes on various accounts were performed all with satisfactory results. Two operations for excision of the elbow joint are reported, which resulted satisfactorily; also three cases of resection of rib. There were several operations for removal of diseased glands, all of which were successful; also several cases of removal of necrosed bone from various parts, and of removal of loose cartilages from the knee joint. The ulnar artery was ligatured on account of wound, and the popliteal and posterior tibial artery on account of traumatic aneurysm, unsuccessfully; and shot or other foreign bodies were extracted after gun-shot wound in three cases with satisfactory results. There were three cases of extirpation of the eye-ball on account of injuries, and three operations for strabismus; satisfactory results were obtained in all. There was an instance of tracheotomy and one of laryngotomy, but the latter terminated fatally. A case of trephining on account of disease of the mastoid cells was successful. Aspiration of the thorax was undertaken in several cases of pleurisy with satisfactory result, and four instances of paracentesis abdominis on account of ascites were followed by benefit; but a case of aspiration of the pericardium on account of purulent pericarditis ended in death. Aspiration of the liver on account of hepatic abscess was performed in seven cases, but two died; and there were two cases of incision of liver abscess, one was successful, but in the other death ensued. There were two operations for the radical cure of hernia, three for urethral stricture, one of external urethrotomy on account of rupture of urethra, and one for urinary fistula after extravasation, all of which gave satisfactory results. Removal of non-malignant growths was effected successfully in ten cases, and among the remaining operations were several for varicose veins, varicocele, hydrocele, fistula in ano, hæmatocele, hæmorrhoids, and other minor operations, all of which gave satisfactory results.

Invaliding.—The number of men discharged the service during the year as medically unfit for further service was 1,702, being in the ratio of 16·72 per 1,000, which is higher than the corresponding rate in the previous year by ·83, but lower than the average rate for the preceding ten years by 2·82 per 1,000. In England and Wales alone there were 1,213 discharged by invaliding during the year, the ratio was therefore 16·77 per 1,000, which is higher by ·76 than in the previous year, but lower by ·05 than the average ratio for the preceding four years. In Scotland the number invalided was 112, the ratio being 29·44 per 1,000, which is higher by 2·20 than in the preceding year, and by 10·63 than the average rate of four years. In Ireland 377 men were discharged by invaliding, being in the ratio of 14·70 per 1,000, which is in excess of the rate in 1889 by ·73, and above the four years' average ratio by 1·28.

The principal causes of invaliding were, as in previous years, diseases of the circulatory system, 331 men being discharged, equal to a ratio of 3·25 per 1,000, which, however, is lower than in the preceding year by ·08. Tubercular diseases came next in frequency, 215 men were discharged on this account, the ratio being 2·11, an increase of ·39. Diseases of the nervous system caused the invaliding of 193 men, or 1·89 per 1,000, which is higher than in the previous year by ·10; among these were 83 cases of mental disease as compared with 73 in the preceding year. Invaliding on account of diseases of the organs of locomotion was nearly twice as frequent as in the previous year, 118 men, or 1·16 per 1,000, having been discharged on this account as compared with ·62. 103 cases of invaliding on account of debility are shown, the ratio, 1·01 per 1,000, being lower by ·06 than the corresponding rate in the year 1889. Diseases of the respiratory system caused the invaliding of 99 men, or ·97 per 1,000, a decrease of ·20, and 95 men were invalided on account of diseases of the digestive system, the ratio, ·93 per 1,000, showing an increase of ·05. Injuries caused the invaliding of 85 men, giving a ratio of ·84 per 1,000, which shows an increase of ·15. There were 84 men discharged on account of diseases of organs of special sense other than the eye, the ratio, ·82 per 1,000, shows an increase of ·12. Secondary syphilis caused the invaliding of 78 men, but the ratio, ·77 per 1,000, shows a decline of ·28. The number of men invalided for rheumatism was 80, or ·79 per 1,000, an increase of ·27.

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Ophthalmic affections caused the discharge of 69 men, the ratio, ·68 per 1,000, being lower by ·14 than in 1889. The ratios of the remaining causes of invaliding were a good deal lower than those above alluded to, and generally did not differ materially from the corresponding rates in the previous year.

Comparing the ratio of invaliding on account of cardiac disease among men in their first year of service with the rate of invaliding for this cause among men at all periods of service, it has been calculated that the former was 2·35 and the latter 2·68 per 1,000. Epilepsy caused an invaliding ratio of ·69 per 1,000 among men in their first year of service, and one of ·64 per 1,000 in total service. The invaliding rate for mental disease was equal to ·97 per 1,000 among men in their first year of service, and ·79 in total service. Tubercular disease caused invaliding among men in their first year of service at the rate of ·65 per 1,000, while in total service the ratio was 2·10 per 1,000. Though the differences between them vary, the relative positions of the invaliding ratios of the first year of service and of total service on account of each of these disabilities remain the same as in the preceding year.

The following tables have been prepared to show the influence of age and length of service on sickness, mortality, and invaliding among the troops serving in the United Kingdom during the year:—

Ages.	Average Strength.	Admission.	Deaths.	Invalided.	Ratios per 1,000 of Strength.		
					Admission.	Mortality.	Invaliding.
Under 20 years - -	28,615	25,536	74	303	892·4	2·59	10·59
From 20 to 24 years -	36,748	40,164	210	826	1093·0	5·71	22·48
„ 25 „ 29 „ -	18,983	10,660	113	332	561·5	5·95	17·49
„ 30 „ 34 „ -	8,078	2,652	69	97	328·3	8·54	12·01
„ 35 „ 39 „ -	5,057	1,474	60	88	291·5	11·86	17·40
40 years and upwards -	2,639	673	37	56	255·0	14·02	21·22
Total - -	100,120	81,159	563	1,702	810·6	5·53*	16·72*

* Calculated on strength, including men detached (1,652).

From the above it will be seen that the highest admission ratio at any age period was 1093·0 per 1,000 among men between 20 and 25 years, the rate among men under 20 years being next below. From the highest admission ratio among men between 20 and 25 years of age to that among men in the next quinquennial period of age there was a considerable decrease, which continued, though to a less extent, through the succeeding quinquennial age periods. Mortality was lowest among men under 20 years of age, next among men between 20 and 25 years of age, but the ratio is about double the foregoing. After this period the death rate steadily increased until the highest was reached among men over 40 years of age. The invaliding rate was highest among men between 20 and 25 years of age, and was more than double that of men under 20 years of age. The rate then declined until the period 30 to 35 years of age was reached, after which it rose again steadily. In the preceding year the invaliding rate increased up to the period 25 to 29 years, falling in the next quinquennium, and subsequently rising. Compared with corresponding results in the previous year there was an increase of 1·04 in the invaliding ratio of men under 20 years of age and one of 4·56 in that of men between 20 and 25 years of age, but in all the ratios for the remaining periods a decrease is observed most marked in the later periods.

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Service.	Average Strength.	Admission.	Deaths.	Invalided.	Ratios per 1,000 of Strength.		
					Admission.	Mortality.	Invaliding.
Under 1 year - -	27,637	29,358	89	307	1062·2	3·22	11·11
From 1 to 2 years -	16,152	15,800	66	292	978·2	4·09	18·08
„ 2 „ 3 „ -	12,389	9,248	52	198	746·5	4·20	15·58
„ 3 „ 4 „ -	10,110	7,507	48	186	742·5	4·75	18·40
„ 4 „ 5 „ -	8,419	5,764	60	171	684·6	7·13	20·31
„ 5 „ 10 „ -	14,389	10,131	115	342	704·1	7·99	23·77
10 years and upwards -	11,024	3,351	133	211	304·0	12·06	19·14
Total - -	100,120	81,159	563	1,702	810·6	5·53*	16·72*

* Calculated on strength, including men detached (1,652).

The above table shows that the occurrence of sickness was greater among young soldiers than older ones, the highest admission rate being among men under one year's service, and the next highest among men between one and two years' service was not much lower; through the third, fourth, and fifth years' service there was a steady decline in the sick rate, followed by a slight rise in that among men between five and ten years' service, falling again considerably among men over that period of service. The mortality rate on the other hand was very low among men in their first year's service, but steadily increased with each year of service up to five years; the rate for the period five to ten years and that among men over that period of service still further increased. After a low invaliding ratio among men under one year's service a considerable increase is observed in the rate among men between one and two years' service; in the third year of service there was a decline in the invaliding rate, but an increase again followed in the fourth and fifth years of service, and also among men between five and ten years' service, after which period there was a slight decrease in the rate. Compared with corresponding results in the preceding year an increase of 1·96 has occurred in the invaliding ratio of men under one year's service, and there was an increase of 8·55 in the ratio among men between five and ten years' service, but there was a fractional decrease in the invaliding ratio of men in their first five years of service taken together, and a slight decrease in the invaliding rate of men over ten years' service.

The admissions, deaths, and average number constantly sick in the various military districts are shown in the following table:—

Military Districts.	Average Annual Strength.	Admissions into Hospital.	Deaths.			Invalids discharged the Service.	Average Number Constantly Sick.	Ratio per 1,000 of Mean Strength.				Average Sick Time to each Soldier.	Average Duration of each Case of Sickness.
			With the Regiment	Absent from the Regiment.	Total.			Admitted into Hospital.	Died.*	Invalids discharged the Service.*	Constantly Sick.		
												days.	days.
1. North-eastern - -	4,852	3,436	36	2	38	97	184·50	708·2	7·83	19·99	38·02	13·88	19·60
2. North-western - -	4,855	3,355	34	—	34	66	159·71	691·0	7·00	13·59	32·90	12·01	17·37
3. Eastern - - -	5,674	5,649	26	4	30	122	269·10	995·6	5·29	21·50	47·23	17·31	17·39
4. Western - - -	6,482	5,248	32	3	35	60	293·87	809·6	5·40	9·26	45·34	16·55	20·44
5. Southern - - -	8,639	7,459	56	7	63	147	450·45	863·4	7·29	17·01	52·14	19·03	22·04
6. Thames - - -	4,603	3,221	14	3	17	45	167·23	699·7	3·69	10·43	36·33	13·26	18·95
7. South-eastern - -	7,176	6,677	39	5	44	147	336·28	930·5	6·13	20·48	46·86	17·10	18·38
8. Home - - - -	7,536	6,653	47	—	47	167	411·42	882·8	6·24	22·16	54·59	19·93	22·57
9. Woolwich - - -	6,090	4,599	31	1	32	49	271·96	755·2	5·25	8·04	44·66	16·29	21·58
10. Aldershot - - -	13,944	12,363	54	8	62	289	701·66	886·6	4·45	20·72	50·32	18·37	20·71
11. Channel Isles - -	1,666	1,196	9	2	11	21	56·59	717·9	6·60	12·60	33·97	12·40	17·27
12. North British - -	3,746	2,696	20	3	23	112	109·66	719·7	6·04	29·44	29·27	10·68	14·84
13. Belfast - - -	3,631	2,490	14	1	15	50	120·89	685·8	4·13	13·77	33·29	12·15	17·72
14. Dublin - - -	8,117	7,100	61	2	63	121	428·78	874·7	7·76	14·90	52·82	19·28	22·04
15. Cork - - - -	8,359	5,969	27	4	31	118	287·94	714·1	3·71	14·11	34·45	12·57	17·61
16. Curragh - - -	4,750	3,048	16	2	18	88	184·65	641·7	3·79	18·52	38·87	14·19	22·11
Total - - -	100,120	81,159	516	47	563	1,702	4434·69	810·6	5·53	16·72	44·29	16·17	19·94
Average of 10 years, 1880 to 1889 - - - -	903,601	749,093	5,246	422	5,668	18,151	41763 00	829·0	6·10	19·54	46·22	16·87	20·35

* Calculated on strength, including men detached.

The highest ratio of admission in any district was 995·6 per 1,000 in the Eastern district, followed by 930·5 in the South-eastern district and 886·6 in Aldershot; the lowest admission rate was 641·7 in the Curragh district, the next above being 685·8 in the Belfast district and 691·0 in the North-western district. In the preceding year also the highest admission rates were in the same three districts, though the places of the second and third were changed; the lowest rate was likewise in the Curragh. Compared with corresponding ratios in the previous year it is observed that with one single exception, that in the North-western district, the admission ratio in every district shows an increase, in some instances to a considerable extent, such as 190·1 per 1,000 in the Woolwich district, 162·3 in the Home district, 144·4 in the South-eastern district, and 136·6 in the Eastern district; the decrease in the North-western district was equal to 85·0 per 1,000. The highest ratio of mortality was 7·83 per 1,000 in the North-eastern district, the next being 7·76 in the Dublin district, and then 7·29 in the Southern district; the lowest rates of mortality were 3·69 in the Thames district, 3·71 in the Cork district, and 3·79 in the Curragh district. In the previous year the highest death rate was in the North-western district, and the lowest in the Cork district. Compared with the return for the preceding year the mortality ratios have increased in eleven districts and decreased in five. Among the instances of increase are 3·17 per 1,000 in the Dublin district, 2·19 in the Woolwich district, and 2·06 in the North-eastern district, and among the instances of decrease are 1·25 per 1,000 at the Curragh, 1·86 in the Belfast district, and ·73 in the North-western district. Invaliding was highest in the North British district, the ratio being 29·44 per 1,000, the next ratios being 22·16 in the Home district and 21·50 in the Eastern district; the lowest invaliding rate was 8·04 per 1,000 in the Woolwich district, the ratios next above being 9·26 in the Western district and 10·43 in the Thames district. In the previous year also the highest rate of invaliding was in the North British district, but the lowest was in the Channel Islands. In comparison with results in the preceding year ten districts show an increase of invaliding rate, the most marked being 5·54per 1,000 in the Eastern district, 5·39 in the Channel Islands, and 5·21 in the South-eastern district; among the six districts showing decrease were the Thames district by 7·56, the Home district by 5·06, and Woolwich by 4·36. The highest ratio of constant inefficiency through sickness was 54·59 per 1,000 in the Home district, followed by 52·82 in the Dublin district, and by 52·14 in the Southern district; the lowest ratio was 29·27 in the North British district, the next above being 32·90 in the North-western district and 33·29 in the Belfast district. In the previous year the highest constantly sick rate was also in the Home district, and the lowest in the North British district. Compared with corresponding ratios in the preceding year the ratio of constantly sick has increased in twelve districts, the chief instances being 7·23 per 1,000 in the Dublin district, 6·79 in the Woolwich district, and 5·30 in the Home district; the North-western district shows a decline of 5·87, the North British one of ·43, the Belfast district one of ·33, and the North-eastern district one of ·01.

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The average sick time to each soldier was longest in the Home district, 19·93 days, next in the Dublin district, 19·28 days, and then in the Southern district, 19·03 days; in the previous year also the average sick time was longest in these three districts, but the relative positions of the second and third were changed; the shortest average sick time was 10·68 days in the North British district, which also gave the shortest in 1889, the North-western district comes next with 12·01 days, and the Belfast with 12·15 days. Compared with corresponding periods in the preceding year the average sick time to each soldier is longer in twelve districts, by 2·64 days in the Dublin district, by 2·47 in the Woolwich district, by 1·83 in the Aldershot district, and by less in the remainder; in three districts this period was shorter, by 2·14 in the North-western district, by ·16 in the North British district, and ·12 in the Belfast district; in the North-eastern district the average sick time remained unchanged. The average duration of each case of sickness was longest in the Home district, 22·57 days, next in the Curragh district, 22·11 days, and in the Southern and Dublin districts, each 22·04 days; it was shortest in the North British district, 14·84 days, next in the Channel Islands, 17·27 days, and in the North-western district, 17·37 days. In the previous year also the longest average duration of each

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case of sickness was in the Home district, and the shortest in North Britain. Compared with the corresponding periods in the preceding year the average duration of each case of sickness has decreased in as many as fourteen districts, particularly in the Woolwich district, by 2·88 days, in the Curragh district by 2·82 days, and the South-eastern district by 2·57 days; the districts in which this period was lengthened were Aldershot, by ·89 of a day, and Dublin, by ·73 of a day.

In the subjoined table are shown the statistics of sickness and mortality among troops quartered in the large camps at Aldershot, Colchester, Shorncliffe, the Curragh, &c., as compared with those of troops quartered in 37 large towns, when the average strength was over 500 non-commissioned officers and men :—

1890.	Average Annual Strength.	Admissions.	Died.	Average constantly Sick.	Ratio per 1,000 of Mean Strength.		
					Admissions.	Deaths.	Constantly Sick.
Camps - -	23,985	20,252	113	1147·76	844·4	4·71	47·85
Towns - -	53,278	44,855	302	2606·22	841·9	5·67	48·92

It will be observed that the admission and constantly sick rates of men quartered in camps differ very slightly indeed from those among men quartered in towns; this was the case also in the previous year as regards the ratio of constantly sick, but not as regards the admission ratio, as that of men in towns was considerably less than that of men quartered in camps. The mortality rate was a good deal higher among men quartered in towns than among men quartered in camps; in the preceding year this was also the case but to a less extent. Comparing the ratios of sickness and mortality among troops quartered in camps and also among troops quartered in towns with corresponding results in the previous year an increase is observed in all. In the case of camps the admission rate is increased by 50·2 per 1,000, the death rate by ·70 and the constantly sick rate by 2·40, while in the case of towns the ratio of admission shows an increase of as much as 95·5, the rate of mortality one of 1·46, and the rate or constant inefficiency on account of sickness one of 3·67 per 1,000.

The following table, compiled from the Returns of Principal Medical Officers, shows the admissions, deaths, number of men invalided, and number constantly sick, from each arm of the service, with the ratios per 1,000 of the strength, and the corresponding ratios for the previous 10 years :—

Arms of the Service.	Average Strength.	Admitted into Hospital.	Died.	Discharged as Invalids.	Average Number constantly Sick.	Annual Ratio per 1,000 of Strength.				Average of 10 Years, 1880–89.			
						Admitted.	Died.	Invalided.	Constantly Sick.	Admitted.	Died.	Invalided.	Constantly Sick.
Household Cavalry	1,218	899	5	29	38·83	738·1	4·10	23·81	31·88	642·8	4·00	22·44	34·82
Cavalry - -	10,044	9,169	60	213	495·52	912·9	5·97	21·21	49·33	889·8	5·05	21·83	49·86
Royal Artillery -	17,062	13,008	110	255	740·34	762·4	6·45	14·95	43·39	753·0	6·95	21·13	45·00
Royal Engineers -	4,512	2,823	27	51	145·35	625·7	5·98	11·30	32·21	588·5	7·26	14·17	33·06
Foot Guards -	5,010	4,538	32	110	322·86	905·8	6·39	21·96	64·44	961·5	6·29	23·38	58·83
Infantry - -	44,033	39,042	212	836	2177·13	886·6	4·81	18·99	49·44	890·5	5·39	19·88	50·12
Regimental Depôts	11,594	8,248	78	143	315·29	711·4	6·73	12·33	27·19	798·9	9·01	20·35	34·54
Garrison Staff and Departments.	6,647	3,432	39	65	199·37	516·3	5·87	9·78	29·99	706·4	7·06	12·60	36·29

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The highest admission ratio in any arm of the service was in the Cavalry, 912·9 per 1,000, the next being 905·8 in the Foot Guards; in the preceding year the highest rate was in the Infantry, and for the average of the previous ten years the highest was in the Foot Guards. The lowest admission rate was 516·3 in the Garrison Staff and Departments, the Royal Engineers being next above; in the previous year the lowest admission rate was also in the same arm of the service, but on an average of ten years the Royal Engineers gave the lowest rate. The highest mortality rate was 6·73 per 1,000 in the Regimental Depôts, the next ratio being in the Royal Artillery; the lowest ratio was 4·10 in the Household Cavalry, 4·81 in the Infantry being next above. In the preceding year also, as well as on the average of ten years, the highest death rate was in the Regimental Depôts, and the lowest in the Household Cavalry. Invaliding was highest in the Household Cavalry, the rate being 23·81 per 1,000, the next rate was in the Foot Guards; in the preceding year, and in the decennial average the highest rates were in the same arms of the service, but their relative position with regard to each other was reversed. The lowest invaliding rate was 9·78 in the Garrison Staff and Departments, which also gave the lowest in the previous year and among average rates. With regard to constant inefficiency through sickness it is observed that the Foot Guards gave the highest ratio, 64·44 per 1,000, the next rate being in the Infantry, this was also the case in 1889, as well as taking the average rates for the previous ten years; the lowest ratio was 27·19 per 1,000 in the Regimental Depôts, the next being in the Garrison Staff and Departments; in the preceding year the lowest ratio was in the Regimental Depôts, and on the average of ten years the lowest ratio of constantly sick was in the Royal Engineers. Compared with corresponding ratios in the previous year the admission rate in the Household Cavalry was increased by 164·7, and in the remaining arms of the service to a less extent, with the exception of the Garrison Staff and Departments, in which a decrease of 54·4 is observed. The ratio of mortality has increased in all arms of the service, being as much as 2·59 in the Foot Guards, and 2·24 in the Cavalry. The invaliding ratios show an increase in all arms of the service, except the Royal Engineers, Foot Guards, and Regimental Depôts, the decrease being as much as 8·65 in the Foot Guards. The instances of increase were not very marked, the highest being 3·65 in the Household Cavalry. With one exception, the Household Cavalry, in which there was a decrease, there was an increase in the ratios of constant inefficiency through sickness in all arms of the service, being as much as 5·94 in the Cavalry, 5·29 in the Foot Guards, and 3·81 in the Garrison Staff and Departments, then 3·27 in the Royal Artillery, 2·78 in the Infantry, 2·04 in the Regimental Depôts, and ·82 in the Royal Engineers. Compared with corresponding results for the average of the previous ten years an increase of 95·3 per 1,000 has occurred in the admission rate of the Household Cavalry, one of 37·2 in that of the Royal Engineers, one of 23·1 in that of the Cavalry, and one of 9·4 in that of the Artillery; in the remaining arms of the service a decrease is observed, being 190·1 in the Garrison Staff and Departments, 87·5 in the Regimental Depôts, 55·7 in the Foot Guards, and 3·9 in the Infantry. The mortality ratio in the Cavalry has increased by ·92, and those of the Household Cavalry and Foot Guards each by ·10; the death rate of the Regimental Depôts has decreased by 2·28, that of the Engineers by 1·28, that of the Garrison Staff and Departments by 1·19, and those of the remaining arms of the service by fractional amounts. With the exception of the Household Cavalry, the invaliding ratio of which has increased by 1·37 per 1,000, a decline is observed in all arms of the service, varying from 8·02 in the Regimental Depôts and 6·18 in the Royal Artillery to ·62 and ·89 in the Cavalry and Infantry respectively. With regard to the ratios of constant inefficiency through sickness, all arms of the service show a decrease except the Foot Guards. The decline amounts to 7·35 per 1,000 in the Regimental Depôts, 6·30 in the Garrison Staff and Departments, 2·94 in the Household Cavalry, ·85 in the Royal Engineers, 1·61 in the Royal Artillery, ·68 in the Infantry, and ·53 in the Cavalry; the increase of ratio in the Foot Guards is equal to 5·61 per 1,000.

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In Abstract XXXIX. will be found a table showing the more important of the health statistics of corps which served in the United Kingdom during the year.

In the Household Cavalry the highest admission rate was 832·9 per 1,000 in the 1st Life Guards, quartered in London nine and Windsor three months, and the lowest was 604·2 in the Royal Horse Guards, stationed in London three and Windsor nine months. Mortality was highest, 5·27, in the Royal Horse Guards, and lowest, 2·45, in the 1st Life Guards. The highest ratio of invaliding was 27·02 in the 1st Life Guards, and the lowest, 20·98, in the 2nd Life Guards, stationed in London throughout the year. The ratio of constantly sick was highest in the 2nd Life Guards, 34·19, and lowest in the 1st Life Guards, 28·69 per 1,000.

Among the regiments of Cavalry the highest ratios of admission and constantly sick were 1302·6 and 76·34 per 1,000 respectively in the 8th Hussars, quartered some time at Norwich, then at Shorncliffe, and afterwards at Aldershot; the lowest rates were 569·1 and 22·20 in the 15th Hussars, stationed at Cahir throughout the year. Mortality was highest, 16·20 per 1,000, in the 10th Hussars, quartered at York, and in the 6th (Inniskilling) Dragoons and 17th Lancers, at Brighton and Shorncliffe respectively for short periods, there was no mortality. The highest annual ratio of invaliding was 76·92 per 1,000 in the 6th (Inniskilling) Dragoons, and the lowest, *nil*, in the 17th Lancers, and 2·34 in the 15th Hussars.

Of the batteries of Horse Artillery, K Battery, quartered at Aldershot throughout the year, gave the highest admission rate, 1021·0, and the highest constantly sick rate, 68·60 per 1,000, while the lowest rate of admission was 519·5 in L Battery at Woolwich, and the lowest rate of constant inefficiency was 26·63 in O Battery at the Curragh. The highest mortality rate was also in K Battery, and in D, I, J, and O, Batteries there was no mortality. Invaliding varied from 36·70 per 1,000 in D Battery at Aldershot to *nil* in G Battery at Dorchester. In Field Artillery, among batteries whose average annual strength was over 100 men, the highest admission rate was 1395·8 per 1,000 in No. 13 Battery, part of the year at Hilsea and the rest at Clonmel, and the lowest rate was 522·4 in No. 6 Battery, at Woolwich the greater part of the year. The highest ratio of mortality was 17·70 per 1,000 in No. 24 Battery, quartered at Sheffield, but in several batteries there was no mortality. Invaliding was highest, 55·55 per 1,000, in No. 63 Battery at Colchester, but *nil* in several batteries. The highest ratio of constantly sick was 66·81 per 1,000 in No. 11 Battery at Sheffield, and the lowest, 25·11, in the 41st Battery, quartered at Weedon for eight and Coventry for four months. Of the divisions of Garrison Artillery the Southern gave the highest rates of admission, mortality, and constantly sick, 843·0, 8·90, and 51·71 per 1,000 respectively, but the highest rate of invaliding was 18·38 per 1,000 in the Western division.

Of the battalions of Foot Guards, the 1st Battalion Coldstream Guards, stationed in London, gave the highest admission rate, 1341·6, and the highest constantly sick rate, 81·47 per 1,000, while the 2nd Battalion Coldstream Guards, four months in London and eight months at Windsor, gave the lowest ratios, 766·9 and 55·43 respectively. The highest annual mortality rate was 14·34 per 1,000 in the 2nd Battalion Grenadier Guards, stationed in London for seven months; in the 2nd Battalion Coldstream Guards there was no mortality. Invaliding rates ranged from 34·43 per 1,000 in the 1st Battalion Grenadier Guards to 15·03 in the 2nd Battalion Coldstream Guards.

Among the regiments of Infantry whose average annual strength was over 100 men, the highest admission ratio, 1688·8 per 1,000, occurred in the 1st Battalion Royal Scots Fusiliers, quartered at Dublin, the highest ratio constantly sick, 101·06 per 1,000, was also in this battalion; the lowest admission ratio was 415·9 in the 1st Battalion Wiltshire Regiment, stationed five months at Athlone and seven at the Curragh, and the lowest rate of constant inefficiency was 16·92 in the 1st Battalion Middlesex Regiment at Buttevant. Mortality gave the highest rate, 25·28 per 1,000, in the 1st Battalion West Riding Regiment, quartered at York, but in eight battalions no death occurred. The highest ratio of invaliding was 50·07 per 1,000 in the 1st Battalion Lancashire

Fusiliers, stationed at Glasgow, and the lowest, 3·24, in the 2nd Battalion Duke of Cornwall's Light Infantry, at Pembroke Dock. *United Kingdom.*

Among Regimental Depôts the highest admission rate, 1875·9 per 1000, was in that of the East Kent Regiment at Canterbury, in which the highest rates of constant inefficiency, 57·30 per 1,000, also occurred; the lowest admission rate, 317·0, was at the depôt Derbyshire Regiment at Derby, and the lowest ratio constantly sick at the depôt Royal Irish Fusiliers at Armagh. With regard to mortality the highest rate, 24·69 per 1,000, is observed at the depôt Royal Dublin Fusiliers at Naas, but at thirty-one depôts there were no fatal cases. Invaliding gave a high rate, 54·55 per 1,000, at the depôt Seaforth Highlanders, the next rate being 43·47 at the depôt Lincolnshire Regiment at Lincoln; at twenty depôts there was no invaliding.

The principal statistics of sickness and mortality amongst officers, women, and children, according to the several groups and orders of diseases, are shown in Abstract D., compiled from the annual returns of Principal Medical Officers of districts.

Officers.—The average strength, as calculated from the annual returns, was 3,963, and there were 1,553 attacks of illness and 23 deaths. The rate of prevalence of sickness was 391·9, and that of mortality 5·80 per 1,000. Compared with the corresponding ratio in the previous year the rate of sickness has increased by 99·0 and that of death by ·72.

General Diseases.—Diseases dependent on Morbid Poisons.—There were only 3 cases of *eruptive fever* during the year, two of measles, and one of scarlet fever. *Enteric fever* caused 16 attacks and one death as compared with 30 attacks and 4 deaths in the previous year; the ratio of prevalence, 4·0, and that of mortality, ·25 per 1,000, have declined by 3·6 and ·77 respectively. 10 of the cases occurred in Ireland, of these, two were at Dublin, two at Cork, and one at the Curragh, Castlebar, Clonmel, Fermoy, Youghal, and Dundalk respectively; the case at the last-named place terminated fatally. Of the cases which occurred in England two were at Portsmouth, and one each at Aldershot, Devonport, Landguard Fort, and Windsor. *Other continued fevers* caused 47 cases of sickness, equal to a ratio of 11·9 per 1,000, which is in excess of that of the preceding year by 3·5. 40 of the cases were returned as simple continued fever, and 7 as febricula. The attacks of *dysentery* numbered 6, being in the ratio of 1·5 per 1,000, an increase of ·5; and there were 3 cases of mumps. The remaining attacks of illness in this sub-group, 312 in in number, equal to 78·7 per 1,000, were all due to the epidemic of influenza. All the different districts were affected to a more or less extent. The number of stations at which cases of the disease were recorded was 64, and the stations showing the greatest number of attacks were Aldershot 30, Woolwich 23, Portsmouth 23, Dublin 20, Chatham 18, Dover 15, Colchester 14, Warley 14, Devonport 12, and the Curragh 10; at each of the remaining stations attacked the number of cases did not reach double figures.

Malarial fevers caused 52 attacks of illness, equal to a ratio of 13·2 per 1,000, which is nearly double the corresponding rate in the preceding year. Of the cases 3 were remittent fever and the remainder ague.

Septic diseases were represented, as in the previous year, by 3 cases of erysipelas.

Venereal Diseases.—34 cases, or 8·6 per 1,000, are returned in Sub-group IV. Adding 3 cases of simple venereal ulcer, the total ratio of prevalence was 9·2 per 1,000, below the last year's rate by 1·2. Of the cases, there were 5 of primary syphilis, 5 of secondary disease, and 24 of gonorrhœa.

Under the head of *alcoholism* 2 cases are returned, one of which terminated fatally. 20 cases were returned as *debility*, as compared with 9 in the previous year.

Rheumatism.—86 cases are recorded, of which 3 were cases of rheumatic fever. The ratio of prevalence was 21·7 per 1,000, which is in excess of the rate in 1889 by 3·9.

Tubercular disease occurred in only one instance, a case of lung affection.

The remaining cases in this group were two of anæmia, one of diabetes, and one of non-malignant growth. Two deaths occurred, one from diabetes and the other from cancer.

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Local Diseases.—Disease of the Nervous System.—29 cases are returned, being in the ratio of 7·4 per 1,000, which is lower than in the previous year by 3·3. The cases were 20 of neuralgia in some form, 3 of mental disease, 2 of paralysis, and one of locomotor ataxy, epilepsy, and vertigo respectively. One death occurred from cerebral congestion.

Diseases of Organs of Special Senses.—The ratio of sickness from these affections was 4·8 per 1,000, almost identical with that in the previous year. The cases treated comprised 12 of ophthalmic affections, 4 of aural disease, and 3 of nasal affection.

Diseases of the Circulatory System.—9 cases of sickness and 3 deaths occurred, being in the ratios of 2·3 and ·76 per 1,000, as compared with 1·5 and ·51 respectively in the previous year. The cases included 4 of valve disease of the heart with three deaths, and one of hypertrophy, palpitation, phlebitis, varicose veins, and syncope respectively.

Diseases of the Respiratory System.—The number of cases treated was 268, and there were 3 deaths. The sick rate, therefore, was 67·6, and the mortality rate ·76 per 1,000, the former shows an increase of 14·3; in the previous year the death rate was *nil*. The principal causes of sickness were bronchitic affections, 233 cases being returned. The remaining cases included 14 of pneumonia, 6 of pleurisy, and one of pneumonic phthisis.

Diseases of the Digestive System.—235 cases and one death are returned. The ratio of sickness, 59·3 per 1,000, is higher by 6·0 than in the previous year. The chief causes of sickness were affections of the mouth and throat 81 cases, hepatic affections 44, dyspepsia 24, and diarrhœa 29. The death was due to abscess of the liver.

Diseases of the Lymphatic and Glandular System caused a sick rate of 5·6 per 1,000, a decline of 1·3 from the last year's rate. The majority of the cases were inflammation of glands. One death was returned from lymphadenoma.

Diseases of the Urinary System.—15 cases are recorded, or 3·8 per 1,000. The principal causes of sickness were cystitis and Bright's disease; from the latter one death occurred.

Diseases of the Generative System caused a sick rate of 5·0, and *diseases of the organs of locomotion* one of 7·8 per 1,000, the former being higher, but the latter lower, than the corresponding rates in the previous year. *Diseases of the connective tissue*, with a ratio of 8·8 per 1,000, show a slight decline; one death is returned from inflammation of connective tissue.

Diseases of the Skin gave a sick rate of 12·4 per 1,000, an increase of 2·2. Out of 49 cases nearly half were boils, and there were 5 cases returned as carbuncle.

Injuries.—231 are recorded, equal to 58·3 per 1,000, a decline of 10·7 from the previous year's rate. Over two-thirds of the cases treated were contusions, wounds, or sprains, and among the remainder were 19 of fracture, 10 of concussion of the brain, and 5 of dislocation. There were 7 deaths; two from drowning, in one case accidental, and in the other a verdict of found drowned was returned; four from gunshot wound, suicidal, in three cases no cause was ascertained, in the fourth the officer shot himself when delirious during an attack of pneumonia; and one death from contusion, with rupture of viscera, the result of an accident while hunting.

A case of sudden death is recorded, but the particulars are not available, beyond that at a coroner's inquest a verdict of death from natural causes was returned.

WOMEN.—The average strength is shown as 10,591, and there were 4,349 cases of sickness, exclusive of ordinary parturition, and 61 deaths. The rate of prevalence of sickness was, therefore, 410·6 and that of mortality 5·76 per 1,000, the former showing an increase of 67·1 and the latter one of ·14, as compared with the corresponding ratios in the previous year.

General Diseases.—Diseases dependent on Morbid Poisons.—Under the head of *eruptive fevers* 22 cases are returned, equal to a ratio of 2·1 per 1,000, a decline of ·4 from the previous year's rate. Scarlet fever caused 9 cases, 6 of which occurred at Devonport, and one at Aberdeen, Derby, and Woolwich respectively. Measles attacked 3 women in London, 2 in Jersey, 2 at Preston, and there were single cases at 6 stations. *Enteric fever* caused 4 attacks of illness and 2 deaths, compared with 9 and 3 respectively in the pre-

ceding year. The cases were one at Canterbury, Shoeburyness, Hilsea, and Gosport respectively, the two last-named terminating fatally. There were 24 attacks of *other continued fevers*, or 2·2 per 1,000, a decline of ·8 from the last year's rate. Four cases of *dysentery* occurred, as compared with 10 in the previous year. Three cases of diphtheria were returned, one each from Glencorse, Londonderry, and Weymouth, but no death occurred; there were also 3 cases of whooping-cough and 3 of mumps. The remaining attacks of illness in this sub-group of diseases were all cases of influenza, and numbered 550. The epidemic was spread, more or less, over all the different districts, and the stations showing the greatest number of cases treated were Aldershot 68, Woolwich 37, Colchester 32, Hounslow, Devonport, and Dublin each 26, Portsmouth 22, Gosport 16, the Curragh 15, Norwich 14, York 13, Windsor and Dorchester each 12, London, Chatham, Dover, Warley, and Fermoy, each 11, the remaining cases being scattered over 59 stations, at none of which did they reach double figures. *United Kingdom.*

Malarial Fevers.—29 cases are recorded, equal to 2·7 per 1,000, which is below the last year's rate by 1·0. With the exception of one case of remittent fever the attacks were all due to ague.

Septic Diseases.—30 attacks are recorded, being in the ratio of 2·8 per 1,000, an increase of ·7. 20 of the cases were erysipelas, and there were 10 cases of septicæmia, with two deaths, one at Lichfield and the other at Fermoy.

Venereal Diseases.—There were no attacks of primary disease, but 21 cases of secondary syphilis occurred, as compared with 29 in the previous year.

Parasitic Diseases.—7 cases are shown, 3 being cases of tænia solium, and 4 ascaris lumbricoides.

Under the head of *debility* 656 cases and one death are shown. The ratio of sickness was 61·9 per 1,000, a decline of 5·1 from the rate in the previous year.

Rheumatism.—209 cases are returned, equal to 19·7 per 1,000, which is higher than the corresponding rate in the preceding year by 3·6. Out of the total number of cases treated 13 were cases of rheumatic fever. *Tubercular diseases.*—52 cases and 14 deaths are recorded, the ratios being 4·9 and 1·32 per 1,000, as compared with 4·8 and ·83 respectively in the previous year. All the cases but 2, and all the deaths, were due to tubercular disease of the lungs. The *other diseases* of this group included 66 cases of anæmia, 15 of non-malignant new growth, 2 of chlorosis, 5 of scrofula, and one of cancer and myxœdema respectively. One death occurred from cancer.

Local Diseases.—Diseases of the Nervous System.—The number of cases of illness was 193, and of deaths 5, being in the ratios of 18·3 and ·47 per 1,000 respectively, the former being lower by 1·7, and the latter higher by ·10 than the corresponding ratio in the preceding year. The principal cause of sickness was neuralgia, 135 cases having occurred, and among the remaining cases the most frequent diseases were hysteria 24, epilepsy 13, and mental disease 6 cases. The deaths were apoplexy 3 cases, eclampsia 1, and epilepsy 1 case.

Diseases of Organs of Special Senses gave a ratio of sickness of 4·3 per 1,000, as compared with 5·2 in the previous year. 33 of the cases were ophthalmic affections, principally conjunctivitis, 11 aural disease, and 2 affections of the nose.

Diseases of the Circulatory System.—82 cases of sickness are returned, and 7 deaths, being in the ratios of 7·7 and ·66 per 1,000, the former being lower than in the previous year by ·4, and the latter higher by ·20. Valvular disease of the heart was the principal cause of sickness, 36 cases, next varicose veins 17, and palpitation 14. Of the deaths 5 were due to valve disease of the heart, one to syncope, and one to embolism.

Diseases of the Respiratory System.—703 cases of illness occurred and 18 deaths. The sick rate, therefore, was 66·4, and the mortality rate 1·70 per 1,000, which are in excess of the corresponding rates in the preceding year by 11·6 and ·59 respectively. About five sixths of the total number of cases of illness were bronchitic affections, and of the remainder the principal illnesses were pneumonia 57 cases, pleurisy 26, asthma 17, and pneumonic phthisis 10.

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The deaths were pneumonia 11 cases, bronchitis 3, pneumonic phthisis 2, hæmoptysis 1, and empyema 1 case.

Diseases of the Digestive System.—The cases of illness were 803 in number, and there were 7 deaths. The ratio of sickness was 75·8 and the mortality rate ·66. The sick rate is higher by 4·1 than in the previous year, but there is scarcely any difference in the death rate. The principal causes of sickness were dyspepsia 315 cases, affections of the mouth and throat 261, diarrhœa 78, hepatic affections 28, and peritonitis 15. The causes of death were peritonitis 3 cases, and gastritis, enteritis, hepatitis, and gastric ulcer one case respectively.

Diseases of the Lymphatic and Glandular System show 28 cases of sickness, or 2·6 per 1,000, an increase of 1·1. *Diseases of the urinary system* gave 25 attacks of illness, or 2·4 per 1,000, rather below the last year's rate.

Diseases of the Generative System.—468 attacks of illness and 4 deaths are recorded, being in the ratios of 44·2 and ·38 per 1,000, as compared with 42·3 and ·28 respectively in the preceding year. The causes of sickness were very numerous, principally functional or symptomatic disorders 177 cases, affections connected with pregnancy 159, uterine affections 52, &c. The deaths are returned as two from uterine affection, one from hæmorrhage, and one from mammary abscess.

Diseases of Organs of Locomotion gave a sick rate of 1·8, an increase of ·6; and *diseases of the connective tissue* had a sick rate of 7·8, a slight decrease from the previous year's rate. *Skin diseases*, with a ratio of prevalence of 10·4 per 1,000, were more frequent than in the preceding year; ulcers and eczema were the chief causes of sickness. Under the head of *poisons* one case of creosote poisoning is recorded; it did well.

Injuries.—80 are recorded, being in the ratio of 7·6, as compared with 4·9 per 1,000 in 1889. No death occurred. The injuries were sprains 28, contusions 18, wounds 16, fractures 10, burns 7, and multiple injury 1 case.

CHILDREN.—The average strength of children was 21,371, and there were 10,914 cases of illness and 493 deaths, being in the ratios of 510·7 and 23·07 per 1,000. Compared with corresponding ratios in the preceding year the sick rate has increased by 13·3 and the death rate by 1·47.

General Diseases.—Diseases dependent on Morbid Poisons.—Under the head of *eruptive fevers* 2,014 attacks of illness and 50 deaths are returned, equal to ratios of 94·3 and 2·34 per 1,000, the former being lower by 18·9, but the latter higher by ·39 than the corresponding ratio in the previous year. Measles alone caused 1,521 attacks of illness, equal to a rate of 71·1 per 1,000, which, however, is lower than in the previous year by 23·4. All the districts were affected except the Curragh, the greatest prevalence of the disease being in the Woolwich and South-eastern districts. Of 62 stations in which the disease appeared those showing the greatest number of cases were Woolwich 258, Aldershot 99, Shorncliffe 98, Hounslow 77, London 71, &c. The number of deaths was 43. Scarlet fever caused 198 cases of sickness and 7 deaths. The ratio of prevalence was 9·3 per 1,000, which is almost the same as the rate in the preceding year. The disease appeared in all the districts, except the South-eastern, Channel Islands, Dublin, and Curragh districts. The number of stations affected was 33. Woolwich was the station with the greatest number of cases, 34, Aldershot next with 29, followed by Devonport with 25. The remaining cases of eruptive fevers were 20 of epidemic rose-rash, 273 of chicken-pox, and 2 of cow-pox. *Enteric fever* caused 7 attacks of illness and one death, as compared with 15 attacks and 3 deaths in the previous year. The cases occurred at Edinburgh, Preston, Norwich, Beverley, Dublin, Cork, and Mullingar, one at each, the last named proved fatal. *Other continued fevers* gave 109 cases of sickness, or 5·1 per 1,000, which is lower than the previous year's rate by 2·2. The cases were all simple continued fever except two, which were typhus fever, and occurred at Tralee. There were 18 cases of dysentery and 3 deaths, as compared with 14 cases and one death in 1889. Whooping-cough caused 527 attacks and 18 deaths; the rate of prevalence, 24·7 per 1,000, differs from that in the previous year by a decrease of 1·9. There were 47 admissions for mumps, less than a third of the number in the preceding year. There were 16 attacks of diphtheria and 7 deaths, as compared with 21 attacks and 8 deaths in 1889. Of the cases 5 with one death occurred at Chatham, 3 and one death at Aldershot, single fatal cases at Devonport, Gosport, Portsmouth, Southampton, and Londonderry, and single cases,

recoveries, at Leith, Harwich, Taunton, and Portland. The remaining 685 attacks of illness in this sub-group were all cases of influenza. The ratio of prevalence was 32·5 per 1,000. The epidemic was present more or less in every district, but most marked in the Home, Southern, and Eastern districts. Of 68 stations attacked the greatest number of cases were 70 at Hounslow, 47 in Gosport, one being fatal, 45 at Woolwich, 39 at Aldershot, 33 in Devonport, 31 in Colchester, 29 at Windsor, 27 at the Curragh, and 25 at Portsmouth.

Malarial Fevers.—29 attacks are recorded, equal to 1·4 per 1,000, a slight increase on the last year's rate. With the exception of one of remittent fever all the cases were ague from which also one death is returned.

Septic Diseases were represented by 14 cases of erysipelas, as compared with 10 in the previous year.

Under the head of *venereal affections* 29 cases of congenital or hereditary syphilis are returned, two of which proved fatal. The ratio, 1·4 per 1,000, shows a decrease.

Parasitic diseases gave a ratio of 3·4 per 1,000, dependent on 73 cases, mostly due to intestinal worms. One case of illness is shown under the head of *scurvy*.

In the group of *developmental diseases* 454 cases of sickness and 54 deaths are recorded, being in the ratios of 21·2 and 2·53 per 1,000 respectively, as compared with 26·9 and 2·18 in the previous year. Of the cases treated 417 were returned as debility, 27 as immaturity at birth, and 10 as malformations. The deaths were 29 from debility, 24 from immaturity at birth, and 1 from spina bifida.

Rheumatism.—33 cases are returned, being in the ratio of 1·5 per 1,000, which is almost the same as in the previous year. Of the cases 9 were rheumatic fever, but no death occurred.

Tubercular diseases.—There were 40 cases treated and 18 deaths, being in the ratios of 1·9 and ·84 respectively, as compared with 2·2 and ·93 in the previous year. Of the total number of cases and deaths, 11 of the former and 4 of the latter were due to lung disease. Among 91 cases and 8 deaths returned as *other diseases* were 33 cases of anæmia, 33 of scrofula, 19 of rickets, 3 of non-malignant tumour, 2 of chlorosis, and 1 of purpura. The deaths were 6 from scrofula, one from rickets, and one from anæmia.

Local Diseases.—Diseases of the Nervous System.—224 cases of sickness and 84 deaths are returned, being in the ratios of 10·5 and 3·93 per 1,000, which are lower than the corresponding rates in the previous year by 1·4 and ·47 respectively. Two thirds of the cases of sickness were due to convulsions, and among the remaining cases the most frequent were inflammation of the brain and its membranes 26, chorea 12, and epilepsy 11. The deaths were 63 from convulsions, 18 from inflammation of the brain and its membranes, and 3 from hydrocephalus.

Diseases of the eye were the cause of 184 cases of sickness, equal to a ratio of 8·6 per 1,000, which is lower by 1·0 than in the previous year. Most of the cases treated were simple conjunctivitis. *Diseases of other organs of special senses* gave 61 cases of sickness, or 2·8 per 1,000, an increase of ·5. Of the cases 54 were aural diseases, and 7 nasal affections. One death occurred from aural disease.

Diseases of the circulatory system were represented by 12 cases of sickness, of which 7 were cases of valvular disease of the heart. A death occurred from endocarditis and one from cyanosis.

Diseases of the Respiratory System.—The ratios of sickness and mortality were 150·0 and 7·73 per 1,000 respectively, being higher than the corresponding ratios in the preceding year by 7·2 and ·87 respectively. Of 3,206 cases treated 2,974 were bronchitic affections, and among the remainder wers 167 cases of pneumonia, 22 of croup, 20 of laryngitis, and 11 of pleurisy. The deaths were bronchitis 127, pneumonia 27, croup 6, laryngitis 2, atalectasis 1, and pneumonic phthisis 1.

Diseases of the digestive system caused 1,776 attacks of illness and 56 deaths, being in the ratios of 83·1 and 2·62 per 1,000, as compared with 74·0 and 1·85 in the previous year. Of the cases the principal illnesses were affections of the mouth and throat 898 cases, diarrhœa 430, dyspepsia 309, &c. The causes

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of death were diarrhœa 23 cases, teething 11, gastritis 5, peritonitis 5, enteritis 5, hepatic affections 4, quinsy 2, and colic 1 case.

Diseases of the lymphatic and glandular system caused 108 attacks of illness, equal to 5·0 per 1,000, an increase of 2·1 on the last year's rate.

Diseases of the Urinary System.—22 cases and 3 deaths are returned; in the previous year there were 17 cases and 3 deaths. The principal cause of sickness as well as the cause of death was nephritis. *Diseases of the generative system* show only 12 cases treated, and *diseases of the organs of locomotion* 24 cases, but 2 deaths occurred one from caries and one from curvature of the spine.

Diseases of the connective tissue gave a sick rate of 7·2 per 1,000, dependent on 153 cases of sickness. One death from abscess is returned. *Diseases of the skin* caused 511 cases of sickness, equal to a ratio of 23·9 per 1,000, a decline of 1·6 from the last year's rate. Eczema and ringworm were the most frequent causes of sickness. One death is returned as intertrigo. Five cases of *poisoning* by laburnum seeds are shown, but they recovered.

Injuries numbered 429, and there were 15 deaths; the ratios were, therefore, 20·1 and ·70 per 1,000 respectively. The ratio of prevalence has increased by ·2 and that of mortality by ·28, as compared with corresponding results in the preceding year. The most frequent causes of injury were wounds 159 cases, contusions 78, burns or scalds 71, fractures 63, and sprains 32. The deaths were 8 from asphyxia, two being cases of accidental drowning, the remainder by overlying or by plugging of air passages, &c., 4 from burns or scalds, and one from multiple injury, wound, and fracture respectively.

Vaccination.

The conditions as to vaccination of all recruits found fit for the service during the year, together with the proportion per 1,000 of each condition, are given in the subjoined table :—

1890.	Number of Recruits found fit for the Service.	Proportion per 1,000.
Had marks of vaccination - -	31,628	948
Had marks of small-pox - -	686	21
Had neither marks of vaccination nor of small-pox - - -	1,048	31
Total - -	33,362	1,000

Compared with the corresponding results in the preceding year an increase of 2 per 1,000 is observed among recruits bearing marks of vaccination, and a decrease of 2 among those bearing marks of small-pox; there was no change in the number without any marks.

The following tables, compiled from the annual returns of Principal Medical Officers, show the number of vaccinations performed during the year, with the proportions per 1,000 of successful or modified results or of failures, whether vaccinated with fresh or preserved lymph.

Results.	Vaccinated during the Year.						Proportion per 1,000.					
	Arm to Arm.		From Preserved Lymph.		Total.		Arm to Arm.		From Preserved Lymph.		Total.	
	Primary Vaccination.	Re-Vaccination.	Primary Vaccination.	Re-Vaccination.	Primary Vaccination.	Re-Vaccination.	Primary Vaccination.	Re-Vaccination.	Primary Vaccination.	Re-Vaccination.	Primary Vaccination.	Re-Vaccination.
TABLE I.—*Recruits.*												
Perfect vaccine pustules	34	3,503	125	15,935	159	19,438	755·6	588·4	683·8	670·8	700·5	654·3
Modified vaccine pustules	11	1,181	26	5,127	37	6,308	244·4	198·4	142·9	215·8	163·0	212·3
Failures	—	1,269	31	2,693	31	3,962	—	213·2	170·3	113·4	136·5	133·4
Total	45	5,953	182	23,755	227	29,708	1000·0	1000·0	1000·0	1000·0	1000·0	1000·0
TABLE II.—*Soldiers other than Recruits.*												
Perfect vaccine pustules	8	323	7	799	15	1,122	615·4	382·7	304·4	408·9	416·7	401·0
Modified vaccine pustules	3	221	12	610	15	831	230·8	261·8	521·7	312·2	416·7	297·0
Failures	2	300	4	545	6	845	153·8	355·5	173·9	278·9	166·6	302·0
Total	13	844	23	1,954	36	2,798	1000·0	1000·0	1000·0	1000·0	1000·0	1000·0
TABLE III.—*Soldiers and Recruits.*												
Perfect vaccine pustules	42	3,826	132	16,734	174	20,560	724·1	562·9	643·9	650·9	661·6	632·5
Modified vaccine pustules	14	1,402	38	5,737	52	7,139	241·4	206·3	185·4	223·2	197·7	219·6
Failures	2	1,569	35	3,238	37	4,807	34·5	230·8	170·7	125·9	140·7	147·9
Total	58	6,797	205	25,709	263	32,506	1000·0	1000·0	1000·0	1000·0	1000·0	1000·0

United Kingdom.

The total number of operations of vaccination performed during the year was 32,769, which is less than in the preceding year by 296. The number of recruits vaccinated was 29,935, which shows an increase of 1,407, but the number of soldiers other than recruits who were vaccinated was 2,834, less than in 1889 by 1,703.

The number of recruits found fit for service during the year was 33,362, therefore, the recruits vaccinated being 29,935; there were 3,427 not accounted for as to vaccination, but there are certain reasons to explain this; for instance, some recruits joined from the Militia, in which force they had already been satisfactorily vaccinated; some recruits joined so late in the year that their vaccination does not appear in the returns of that year, and in some cases men deserted after enlistment before there had been time to vaccinate them.

Taking the first table, which gives the vaccination of recruits, and comparing it with the corresponding one in the preceding year, it is found in arm-to-arm primary vaccination, though the number of cases was small, that there was an increase equal to 44·0 per 1,000 in the proportion of perfect vaccine pustules, and one equal to 90·6 in that of modified vaccine pustules, and there was a corresponding decrease in the proportion of failures. In arm-to-arm re-vaccination there was a slight increase, 3·7 per 1,000 in the proportion of perfect results, and an increase of 24·7 in that of failures, but there was a decrease of 28·4 in the proportion of modified results. In vaccination with preserved lymph very satisfactory results both in primary and re-vaccination, but particularly in the latter, have been obtained, as compared with the return for the previous year, the proportion of perfect vaccine pustules in primary vaccination having increased by 55·9 per 1,000, while the proportions of modified results and of failures have decreased by 39·6 and 16·3 respectively, and in re-vaccination the increase in the proportion of perfect results is as much as 204·6 per 1,000, being counterbalanced by a decrease of 38·4 in the proportion of modified vaccine pustules, and one of 166·2 in that of failures.

The total results of primary vaccination among recruits show an increase of 55·7 per 1,000 in the proportion of perfect vaccine pustules, but a decrease of 14·6 in that of modified results, and one of 41·1 in that of failures. The total results of re-vaccination among recruits give an increase of 159·5 per 1,000 in the proportion of perfect vaccine pustules, and a decrease of 35·3 and 124·2 in modified vaccine vesicles and failures respectively.

In the next table is given the vaccination of soldiers other than recruits. It will be observed that there were very few instances of primary vaccination either by arm-to-arm or preserved lymph, but re-vaccinations were fairly numerous. Among the latter, as compared with the preceding year, an increase of 153·0 per 1,000 is observed in the proportion of perfect vaccine pustules in re-vaccination with preserved lymph, a decrease of 17·9 in the proportion of modified results, and one of 135·1 in that of failures.

Taking all classes of soldiers together, it is observed from Table III. that, as compared with the return for 1889, in primary vaccination there is an increase of 18·5 per 1,000 in the proportion of perfect vaccine pustules, and one of 24·1 in that of modified results, but there is a decrease of 42·6 in the proportion of failures. In re-vaccination the increase in the proportion of perfect results was equal to 164·0 per 1,000, while the proportion of modified vaccine vesicles declined by 37·8 and that of failures by 126·2.

Of the total number of operations of vaccination of soldiers, 32,769, there were 20,734 perfect results, or 632·7 per 1,000, 7,191 modified results, or 219·5 per 1,000, and 4,844 failures, or 147·8 per 1,000. Comparing these results with the corresponding proportions in the preceding year, an increase of 162·6 per 1,000 is observed in the proportion of perfect vaccine vesicles, a decrease of 37·1 in the proportion of modified results, and one of 125·5 in that of failures.

Women.—The number of operations of vaccination among women was in all 113; of these 11 were cases of primary vaccination and 102 cases of re-vaccination; of the latter, 52 cases, or 509·8 per 1,000 gave perfect results, 18 cases, or 176·5 per 1,000, modified results, and 32 cases, or 313·7 per 1,000, were failures. Comparing these proportions with the similar ones in the return for the previous year, a decrease of 61·0 per 1,000 has occurred in the proportion of perfect vaccine pustules counterbalanced by an increase of 51·5

in the proportion of modified vesicles, and one of 9·5 in the proportion of failures. *United Kingdom.*

CHILDREN.—Among children there were 952 arm-to-arm primary vaccinations, of which 897, or 942·2 per 1,000 gave perfect results, 55 or 57·8 per 1,000 being failures. The proportion of successful results is higher by 13·2 than in the previous year. There were only 15 cases of arm-to-arm re-vaccination, two of which failed. Out of 1,955 cases of primary vaccination with preserved lymph, 185 were failures, the proportion of successes being 905·4 per 1,000, which is higher than in the previous year by 164·8. Re-vaccination with preserved lymph gave 64 successful results out of 75 cases, the proportion, 853·3 per 1,000, shows an increase of 126·0. The total number of primary vaccinations was 2,907, of which 240 were failures, the proportion of successful results was therefore 917·4 per 1,000, an increase of 101·4 as compared with the last year's return. Re-vaccinations, 90 in all, were successful in 77 instances, in the proportion of 855·6 per 1,000, an increase of 77·8. The total number of children vaccinated was 2,997, and of them 2,744, or 915·6 per 1,000, successfully, which is a greater proportion than in the preceding year by 101·5 per 1,000.

Small-pox.—During the year there were no cases among the men, women, or children in the United Kingdom, the Colonies, or among the troops on board ship. In India there were 36 attacks and 4 deaths among the men, 8 attacks and no deaths among the women, and 10 attacks and no deaths among the children. In Egypt one woman was attacked. The total numbers are 36 cases and 4 deaths among men, 9 and 10 cases among women and children respectively with no mortality. The ratios of attacks to total strength are for men ·18, for women ·59, and for children ·33 per 1,000; the ratio of mortality for men is ·02 per 1,000. In the preceding year the ratios of prevalence among men, women, and children were 1·02, 1·36, and ·40, and the ratios of mortality ·11, ·06, and ·03 per 1,000 respectively.

ON THE RECRUITING OF THE ARMY,

It is found from the Annual Returns of Principal Medical Officers that the number of recruits inspected during the year was 55,367; of these 22,005, equal to a ratio of 397·43 per 1,000, were rejected as medically unfit for the service; the remainder, 33,362, or 602·57 per 1,000, being found fit for the service.

The following table gives the number of men inspected, the number rejected, and the ratios of rejections per 1,000 examined :—

TABLE I.

Number of Recruits Inspected.	Number Rejected.			Ratio of Rejections per 1,000 inspected.		
	On Inspection.	Unfit within Three Months of Enlistment.	Total.	On Inspection.	Unfit within Three Months of Enlistment.	Total.
55,367	21,712	293	22,005	392·14	5·29	397·43

United Kingdom.

From the above it will be observed that of the total number of men found unfit for service there were 293 who, having originally passed, were, within three months of their enlistment, found unlikely to become efficient soldiers. These recruits were forthwith discharged as such under the provisions of para. 124 L. (*d*), section XIX., Queen's Regulations and Orders for the Army, 1889, Part II., as all recruits pass through a period of probationary training before final acceptance. Excluding these, the number of men rejected on inspection was 21,712, or 392·14 per 1,000.

Compared with the corresponding ratios in the previous year a decrease of 19·40 per 1,000 is observed in the ratio of rejection on inspection, but there is a fractional increase, ·39, in the ratio of rejection of recruits within three months of enlistment. The total ratio of rejection has declined, therefore, by 19·03 per 1,000, the ratio of men found fit for the service having increased by the same amount.

The native countries of recruits, the ratios of rejection, and the proportion per 1,000 furnished by each country are given in the following table:—

TABLE II.

Native Countries of Recruits.	Number Inspected.	Number Rejected.	Ratio Rejected per 1,000 Inspected.	Proportion per 1,000 Recruits furnished by each Country.
England and Wales - - -	42,862	17,225	401·87	774
Scotland - - - - -	4,596	1,819	395·78	83
Ireland - - - - -	6,960	2,578	370·40	126
British Colonies and Foreign Countries - - - - -	949	383	403·58	17
Total - - -	55,367	22,005	397·48	1,000

Compared with the similar table in the report for the previous year the ratio of rejection of recruits born in England or Wales has decreased by 17·13; that of recruits born in Scotland by 20·60, and that of recruits born in Ireland by as much as 33·44 per 1,000, but the ratio of rejection of recruits born in British Colonies or foreign countries has increased by 23·14 per 1,000.

Out of 1,000 recruits inspected 774 were natives of England or Wales, but, however, 10 less than in the previous year; 83 were natives of Scotland, a decrease of 5; 126 were natives of Ireland, an increase of 13; and 17 were born in British Colonies or foreign countries, as compared with 15 in the preceding year.

In the succeeding table is shown, as far as possible, the number of recruits examined for each arm of the service, the number rejected, the ratios of rejection, and the proportion for each arm of the service per 1,000 inspected. A

considerable number, it will be observed, are shown under the head of general service as the particular arm is not stated in the returns :— *United Kingdom.*

TABLE III.

Arms of the Service.	Number Inspected.	Number Rejected.	Ratio of Rejections per 1,000 of Recruits Inspected for each Arm of the Service.	Proportion for each Arm of the Service per 1,000 Inspected.
Household Cavalry - - -	301	111	368·77	6
Cavalry of the Line - - -	3,565	1,419	398·04	64
Royal Artillery - - -	8,477	3,515	414·65	153
Royal Engineers - - -	1,371	457	359·56	23
Foot Guards - - - -	1,826	703	384·99	33
Infantry Regiments - - -	28,733	11,169	388·71	519
Departmental Corps - - -	1,561	657	420·89	28
General Service - - -	9,633	3,974	412·54	174
Total - - -	55,367	22,005	397·43	1,000

Compared with corresponding ratios in the preceding year an increase of 10·29 per 1,000 has taken place in the ratio of rejection for the Artillery, and one of 4·53 in that for General Service; but there is a decrease of 51·52 in the ratio of rejection for the Household Cavalry, one of 57·06 in that for the Cavalry, one of 55·04 in that for the Engineers, one of 15·31 in that for the Foot Guards, one of 28·28 in that for the Infantry, and one of 26·16 in that for Departmental Corps.

The proportion of recruits for each arm of the service per 1,000 inspected, as shown above, when compared with that for the preceding year shows no change in that for the Household Cavalry, a decrease of 2 in that for the Artillery, one of 2 in that for the Engineers, one of 4 in that for the Foot Guards, one of 19 in that for the Infantry, and one of 6 in that for Departmental Corps, but an increase of 2 and 31 respectively is observed in the proportions of recruits enlisting for the Cavalry and for General Service.

In the next table are given the occupations of recruits previous to enlistment, the ratio rejected per 1,000 of each group of occupations, and the proportion of each group in every 1,000 men inspected :—

TABLE IV.

Occupations of Recruits.	Number Inspected.	Number Rejected.	Ratio Rejected per 1,000 Inspected.	Proportion of each Group in 1,000 Recruits Inspected
1. Labourers, Servants, Husbandmen, &c.	34,353	13,633	396·85	621
2. Manufacturing Artizans (as Clothworkers, Weavers, Lace Makers, &c.).	9,257	4,055	438·05	167
3. Mechanics employed in Occupations favourable to physical development (as Smiths, Carpenters, Masons, &c.).	5,974	2,343	392·20	108
4. Shopmen and Clerks - -	3,535	1,425	403·11	64
5. Professional Occupations, Students, &c.	669	277	414·05	12
6. Boys under 17 years of age -	1,560	256	164·10	28
No occupation - - -	19	16	842·10	—
Total - - -	55,367	22,005	397·43	1,000

United Kingdom.

Compared with the corresponding return in the report for the preceding year it will be observed that there is a decrease of 17·83 per 1,000 in the ratio of rejection in Class I., labourers, &c., one of 20·78 in Class II., manufacturing artizans, one of 22·51 in Class III., mechanics, &c., one of 36·59 in Class IV., shopmen and clerks, and one of 17·11 in Class VI., boys under seventeen years of age; but there is an increase of 66·48 in the ratio of rejection in Class V., professional occupations.

The proportions of the different classes of occupations among 1,000 recruits inspected compared with those for the preceding year show an increase of 4 in Class I., labourers, &c., one of 5 in Class II., manufacturing artizans, and one of 1 in Class VI., boys under seventeen years of age; but there is a decrease of 8 in the proportion of Class III., mechanics, one of 1 in Class IV., shopmen and clerks, and one of 1 in Class V., professional occupations.

The following table gives the number of recruits rejected on inspection during the year according to the different causes of rejection arranged in classes, and the ratio per 1,000 of rejection in each class. Similar information is afforded regarding recruits unfit within three months of enlistment:—

TABLE V.

Causes of Rejections in Classes.	Total inspected, 55,367.			
	Number rejected on Inspection.	Ratio per 1,000 rejected on Inspection.	Unfit within Three Months of Enlistment.	Ratio per 1,000 rejected as Unfit within Three Months of Enlistment.
1. Syphilis	348	6·29	3	·05
2. Scrofula	171	3·09	1	·02
3. Tubercle	66	1·19	6	·11
4. Impaired Constitution and Debility.	687	12·41	21	·38
5. Other General Diseases	208	3·76	16	·29
6. Diseases of Nervous System	51	·92	18	·33
7. Weakness of Intellect	118	2·13	47	·85
8. Defective Vision	2,106	38·04	5	·09
9. Diseases of Eyes and Eyelids	105	1·90	3	·05
10. Diseases of Nose and Mouth	45	·81	1	·02
11. Disease of Ears	127	2·29	9	·16
12. Deafness	64	1·15	2	·04
13. Impediment of Speech	88	1·59	—	—
14. Disease of Heart	1,061	19·16	46	·83
15. Disease of Arteries (Aneurysm)	3	·05	—	—
16. Disease of Veins (Varix)	891	16·09	11	·20
17. Disease of Lungs (except Tubercle).	90	1·63	2	·04
18. Loss or Decay of many Teeth	506	9·14	4	·07
19. Hernia	415	7·50	12	·22
20. Laxity of Abdominal Rings	120	2·17	1	·02
21. Hæmorrhoids	71	1·28	—	—
22. Diseases of the Urinary Organs	49	·88	4	·07

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Causes of Rejections, in Classes.	Total inspected, 55,367.			
	Number rejected on Inspection.	Ratio per 1,000 rejected on Inspection.	Unfit within Three Months of Enlistment.	Ratio per 1,000 rejected as Unfit within Three Months of Enlistment.
23. Varicocele	867	15·66	12	·22
24. Other Diseases of the Genital Organs (not Syphilitic).	71	1·28	3	·05
25. Defects of Upper Extremities, from Fracture, Contraction, Luxation, &c.	305	5·51	4	·07
26. Defects of Lower Extremities, from Fracture, Contraction, Luxation, &c.	925	16·71	9	·16
27. Flat Feet	654	11·81	10	·18
28. Diseases of Joints	58	1·05	2	·04
29. Other Affections of Bones and Muscles.	101	1·82	7	·12
30. Ulcers, Wounds, and Cicatrices	141	2·55	3	·05
31. Other Affections of the Cutaneous System.	249	4·50	6	·10
32. Malformation of Ears	2	·04	—	—
33. Malformation of Nose and Mouth	9	·16	—	—
34. Malformation of Chest and Spine	540	9·75	3	·05
35. Malformation of Urinary or Genital Organs.	25	·45	2	·04
36. Under Height	1,390	25·10	2	·04
37. Under Chest Measurement	5,617	101·45	10	·18
38. Under Weight	2,441	44·09	1	·02
39. Apparent Age not in accordance with Regulations.	510	9·21	—	—
40. Not likely to become efficient	376	6·79	7	·13
41. Over height	41	·74	—	—
Total Rejected	21,712	392·14	293	5·29

It will be seen that a considerable number of the rejections on inspection were caused by defective development, the ratio of rejection on this account only, being as much as 170·64 per 1,000; still, compared with corresponding ratio for the preceding year, this shows a decline of 36·54. The highest ratio of rejection, 101·45 per 1,000, was on account of defective chest measurement; but this ratio was lower by 37·33 than that recorded in the previous year. The ratio of rejection for being under weight was 44·09 per 1,000, an increase of 5·93, and the ratio of rejection for being under height was 25·10 per 1,000, a decrease of 5·14 as compared with the last year's return. Among other causes of rejection the most frequent was, as usual, defective vision, the ratio being 38·04 per 1,000, which is higher than in the previous year by 2·88. Cardiac disease, with a ratio of 19·16 per 1,000, was the cause of rejection next in frequency, followed by defects of the lower extremities 16·71, varicose veins 16·09, varicocele 15·66, debility 12·41, flat feet 11·81, malformation of chest 9·75, and loss or decay of many teeth 9·14. In previous years the returns show that these causes of rejection were generally the most frequent, though the ratios, as well as the order in which they come, may vary. Among those recruits found unfit within three months after enlistment the chief causes of rejection were weakness of intellect 47 cases, heart disease 46; these were

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also the most frequent causes of rejection in the previous year, but the numbers were then 28 and 38 respectively.

Ages, Heights, Weights, and Chest Measurements of all Recruits finally approved for Service during the Year.

In Table No. VI. are given the ages of all recruits finally approved for service, and the proportion of each age per 10,000:—

TABLE VI.

Ages.	Numbers finally approved for Service.	Proportion per 10,000.
Boys under 17 years - - - -	1,317	395
From 17 to 18 „ - - - -	492	147
„ 18 to 19 „ - - - -	16,310	4,889
„ 19 to 20 „ - - - -	6,579	1,972
„ 20 to 21 „ - - - -	3,109	932
„ 21 to 22 „ - - - -	2,049	614
„ 22 to 23 „ - - - -	1,406	421
„ 23 to 24 „ - - - -	997	299
„ 24 to 25 „ - - - -	830	249
25 years and upwards - - -	273	82
Total - - -	33,362	10,000

The age at which the greatest number of recruits passed fit for service was between 18 and 19 years, the actual number was 16,310, which is in the proportion of 4,889, or very nearly half of every 10,000 approved; in the preceding year this proportion was 4,768. The next proportion, 1,972, between 19 and 20 years of age, and 932 between 20 and 21 years of age, are slightly below the corresponding proportions in the previous year.

The next table gives the heights of recruits finally approved, and the proportion of each height per 10,000. It also gives the heights of recruits finally approved, arranged in series according to age, together with the proportion per 10,000 of each height at each age:—

TABLE VII.

Heights of Recruits finally approved for Service.	Boys under 17 Years.	Between 17 and 18.	Between 18 and 19.	Between 19 and 20.	Between 20 and 21.	Between 21 and 22.	Between 22 and 23.	Between 23 and 24.	Between 24 and 25.	25 Years and upwards.	Total at each Height.
ft. in. ft. in. Under 5 3	1,101	29	158	46	10	5	5	1	1	—	1,356
5 3 to 5 4 -	103	148	2,351	513	163	92	61	45	21	9	3,506
5 4 to 5 5 -	46	139	4,206	1,406	513	296	222	135	92	35	7,090

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Heights of Recruits finally approved for Service.	Boys under 17 Years.	Between 17 and 18.	Between 18 and 19.	Between 19 and 20.	Between 20 and 21.	Between 21 and 22.	Between 22 and 23.	Between 23 and 24.	Between 24 and 25.	25 Years and upwards.	Total at each Height.
ft. in. ft. in.											
5 5 to 5 6 -	25	84	3,764	1,394	669	377	222	178	147	41	6,901
5 6 to 5 7 -	23	41	2,374	1,151	563	380	239	190	157	54	5,172
5 7 to 5 8 -	9	24	1,643	903	475	332	227	153	138	52	3,961
5 8 to 5 9 -	6	16	982	615	327	275	195	131	137	30	2,714
5 9 to 5 10 -	2	5	516	324	226	153	123	73	68	29	1,519
5 10 to 5 11 -	—	2	179	119	78	73	66	39	39	13	608
5 11 to 6 0 -	2	—	71	58	43	33	28	23	18	5	281
6 0 and upwards	—	4	66	50	42	33	19	24	12	5	254
Totals at each age	1,317	492	16,310	6,579	3,109	2,049	1,466	997	830	273	33,362

Heights of Recruits finally approved for Service.	Proportions per 10,000 at each Age.										Total Proportion of each Height per 10,000.
	Boys under 17 Years.	Between 17 and 18.	Between 18 and 19.	Between 19 and 20.	Between 20 and 21.	Between 21 and 22.	Between 22 and 23.	Between 23 and 24.	Between 24 and 25.	25 Years and upwards.	
ft. in. ft. in.											
Under 5 3 -	8,360	590	97	70	52	24	36	10	12	—	407
5 3 to 5 4 -	782	3,008	1,441	780	524	449	434	451	253	330	1,051
5 4 to 5 5 -	349	2,825	2,579	2,137	1,650	1,445	1,579	1,354	1,108	1,282	2,125
5 5 to 5 6 -	190	1,707	2,308	2,119	2,152	1,840	1,579	1,785	1,771	1,502	2,069
5 6 to 5 7 -	175	833	1,456	1,750	1,811	1,855	1,700	1,906	1,892	1,978	1,550
5 7 to 5 8 -	68	488	1,007	1,372	1,528	1,620	1,614	1,585	1,663	1,905	1,187
5 8 to 5 9 -	46	325	602	935	1,052	1,342	1,387	1,314	1,651	1,099	814
5 9 to 5 10 -	15	102	316	492	727	747	875	732	819	1,062	455
5 10 to 5 11 -	—	41	110	181	251	356	469	391	470	476	182
5 11 to 6 0 -	15	—	44	88	138	161	199	231	217	183	84
6 0 and upwards	—	81	40	76	135	161	128	241	144	183	76
Total -	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000

Compared with the corresponding return for the preceding year it is observed that the proportion of recruits under 5 feet 3 inches in height per 10,000 approved has increased by 29, that of recruits between 5 feet 4 inches and 5 feet 5 inches by 84, that of recruits between 5 feet 7 inches and 5 feet 8 inches by 8, that of recruits between 5 feet 9 inches and 5 feet 10 inches by 8, and that of recruits over 6 feet in height by 10; but a decrease of 12 is observed in the proportion of recruits between 5 feet 3 inches and 5 feet 4 inches in height, one of 65 in that of recruits between 5 feet 5 inches and 5 feet 6 inches, one of 30 in that of recruits between 5 feet 6 inches and 5 feet 7 inches, one of 3 in that of recruits between 5 feet 8 inches and 5 feet 9 inches, one of 8 in that of recruits between 5 feet 10 inches and 5 feet 11 inches, and one of 21 in that of recruits between 5 feet 11 inches and 6 feet in height.

Omitting boys, the highest proportion of recruits at any age of any height per 10,000 finally approved was 3,008 between 17 and 18 years of age, and of 5 feet

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3 inches to 5 feet 4 inches in height. In the previous year the highest proportion was at the same age, but at the height between 5 feet 4 inches and 5 feet 5 inches. Taking the age at which the great majority of the recruits are passed, from 18 to 19 years, the highest proportions were 2,579 between 5 feet 4 inches and 5 feet 5 inches in height, and 2,308 between 5 feet 5 inches and 5 feet 6 inches in height; in the preceding year also the highest proportions at the same age were at the same heights, viz., 2,540 between 5 feet 4 inches and 5 feet 5 inches, and 2,471 between 5 feet 5 inches and 5 feet 6 inches.

The next table shows the weights of the recruits who were finally approved, and the proportion of each weight per 10,000. It also shows the weights of these recruits arranged in series according to age, together with the proportion per 10,000 of each weight at each age :—

TABLE VIII.

Weights of Recruits finally approved for Service.	Boys under 17 Years.	Between 17 and 18.	Between 18 and 19.	Between 19 and 20.	Between 20 and 21.	Between 21 and 22.	Between 22 and 23.	Between 23 and 24.	Between 24 and 25.	25 Years and upwards.	Total at each Weight.
Under 100 lbs. -	1,069	10	8	1	—	—	—	—	—	—	1,088
100—110 lbs. -	165	59	294	50	23	15	11	—	2	—	624
110—120 „ -	55	206	5,503	1,238	375	176	107	68	37	17	7,782
120—130 „ -	18	152	6,664	2,560	1,062	592	360	241	170	57	11,876
130—140 „ -	9	51	2,830	1,753	947	651	419	296	254	63	7,275
140—150 „ -	1	11	778	713	452	407	288	233	190	61	3,134
150—160 „ -	—	1	189	207	163	135	160	102	113	46	1,136
160—170 „ -	—	2	34	45	53	51	45	40	50	16	336
Upwards of 170 lbs.	—	—	10	12	9	22	16	15	14	13	111
Totals at each age	1,317	492	16,310	6,579	3,109	2,049	1,406	997	830	273	33,362

Weights of Recruits finally approved for Service.	Proportions per 10,000 at each Age.										Total Proportion of each Weight per 10,000.
	Boys under 17 Years.	Between 17 and 18.	Between 18 and 19.	Between 19 and 20.	Between 20 and 21.	Between 21 and 22.	Between 22 and 23.	Between 23 and 24.	Between 24 and 25.	25 Years and upwards.	
Under 100 lbs. -	8,117	203	5	1	—	—	—	—	—	—	326
100—110 lbs. -	1,253	1,199	180	76	90	73	78	—	24	—	187
110—120 „ -	418	4,187	3,374	1,882	1,206	859	761	682	446	623	2,332
120—130 „ -	137	3,089	4,086	3,891	3,416	2,889	2,561	2,417	2,048	2,088	3,560
130—140 „ -	68	1,037	1,735	2,665	3,046	3,177	2,980	2,989	3,060	2,308	2,181
140—150 „ -	7	224	477	1,084	1,454	1,986	2,048	2,337	2,289	2,234	939
150—160 „ -	—	20	116	315	589	659	1,138	1,023	1,362	1,685	341
160—170 „ -	—	41	21	68	170	249	320	401	602	586	101
Upwards of 170 lbs.	—	—	6	18	29	108	114	151	169	476	33
Totals at each age	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000

Compared with the return in the previous year an increase of 101 has occurred in the proportion of recruits between 100 and 110 lbs. in weight per

10,000 finally approved, and one of 394 in that of recruits between 110 and 120 lbs. in weight. The proportion of recruits under 100 lbs. in weight has decreased by 1, that of recruits between 120 and 130 lbs. in weight by 67, that of recruits between 130 and 140 lbs. in weight by 271, that of recruits between 140 and 150 lbs. in weight by 108, that of recruits between 150 and 160 lbs. in weight by 18, that of recruits between 160 and 170 lbs. in weight by 16, and that of recruits over 170 lbs. in weight by 14. *United Kingdom.*

Omitting boys, the highest proportion of recruits at any age and of any weight was 4,187 among recruits between 17 and 18 years of age, and between 110 and 120 lbs. in weight, the number of recruits examined at this age is not great; but taking the next age, between 18 and 19 years, at which a large number of recruits are examined, the highest proportion was 4,086 among recruits between 120 and 130 lbs. in weight. In the preceding year the relative position of these two proportions was reversed.

In the next table is shown the chest measurements of recruits finally approved, and the proportion of each measurement per 10,000. It also shows the chest measurements of these recruits arranged in series according to age, together with the proportion per 10,000 of each chest measurement at each age.

TABLE IX.

Chest Measurement of Recruits finally approved for Service.	Boys under 17 Years.	Between 17 and 18.	Between 18 and 19.	Between 19 and 20.	Between 20 and 21.	Between 21 and 22.	Between 22 and 23.	Between 23 and 24.	Between 24 and 25.	25 Years and upwards.	Total at each Chest Measurement.
Under 31 inches -	1,135	18	36	2	—	—	—	—	—	—	1,191
31—32 inches -	121	77	583	86	17	10	4	1	1	—	900
32—33 „ -	46	165	3,025	724	235	82	53	23	14	2	4,369
33—34 „ -	11	151	6,781	2,265	873	465	249	177	111	39	11,122
34—35 „ -	3	64	4,327	2,206	1,144	782	517	330	278	77	9,728
Above 35 inches -	1	17	1,558	1,296	840	710	583	466	426	155	6,052
Totals at each age	1,317	492	16,310	6,579	3,109	2,049	1,406	997	830	273	33,362

Chest Measurement of Recruits finally approved for Service.	Proportions per 10,000 at each Age.										Total proportion of each Chest Measurement per 10,000.
	Boys under 17 Years.	Between 17 and 18.	Between 18 and 19.	Between 19 and 20.	Between 20 and 21.	Between 21 and 22.	Between 22 and 23.	Between 23 and 24.	Between 24 and 25.	25 Years and upwards.	
Under 31 inches -	8,618	366	22	3	—	—	—	—	—	—	357
31—32 inches -	919	1,565	357	131	54	49	28	10	12	—	270
32—33 „ -	349	3,354	1,855	1,100	756	400	377	231	169	73	1,309
33—34 „ -	83	3,069	4,158	3,443	2,808	2,269	1,771	1,775	1,337	1,429	3,334
34—35 „ -	23	1,301	2,653	3,353	3,680	3,817	3,677	3,310	3,349	2,820	2,916
Above 35 inches -	8	345	955	1,970	2,702	3,465	4,147	4,674	5,133	5,678	1,814
Total -	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000

Compared with the return for the preceding year an increase of 5 has occurred in the proportion of recruits under 31 inches chest measurement per

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10,000 finally approved, one of 142 in that of recruits between 31 and 32 inches chest measurement, and of 342 in that of recruits between 32 and 33 inches chest measurement, but a decrease of 115 is observed in the proportion of recruits between 33 and 34 inches chest measurement, one of 327 in that of recruits between 34 and 35 inches chest measurement, and one of 47 in that of recruits over 35 inches chest measurement. Omitting boys, the highest proportion of recruits at any age and of any chest measurement was 5,678 among men of 25 years of age and above 35 inches chest measurement, the next being 5,133 among men between 24 and 25 years of age, and the same chest measurement. In the previous year, also, the highest proportions were found at these ages; they are, however, dependent on comparatively few approvals. Taking the age at which the greatest number of recruits are examined, 18 to 19 years, it is found that the highest proportion was 4,158 among recruits from 33 to 34 inches chest measurement, as compared with 4,395 at the same age and chest measurement in the previous year.

From these tables it has been calculated that, excluding boys under 17 years of age, the average age of recruits finally approved during the year was 19·1 years, as compared with 19·2 years in 1889, the average height 5 feet 5·6 inches, as compared with 5 feet 5·6 inches, the average weight 120 lbs., as compared with 124·5 lbs., and the average chest measurement 33·5 inches, as compared with 33·6 inches, the corresponding measurement in the previous year.

The next table shows the state of education of recruits finally approved, together with the proportion per 1,000 of those well educated, able to read and write, able to read only, or unable to read.

TABLE X.

	Numbers finally approved.	Proportion per 1,000.
Well educated - - - -	2,810	84
Able to read and write - - -	28,345	850
Able to read only - - - -	854	25
Unable to read - - - -	1,353	41
Total - - - -	33,362	1,000

Compared with the results for the preceding year an increase of 18 has occurred in the proportion of recruits able to read and write, but there is a decrease of 10 in the proportion of recruits returned as well educated; one of 3 in that of recruits able to read only, and one of 5 in that of recruits unable to read.

HOME STATIONS.

United Kingdom.

Sanitary Conditions.

North-Eastern District.

The report of the Principal Medical Officer, Deputy Surgeon-General J. Walsh, shows that the general health of the troops was good, and that the several barracks throughout the district were kept in a satisfactory condition as regards sanitation. At Beverley the sanitary arrangements were generally good, but it was discovered in the course of the year that the water supply, which is abundant and of good quality, was liable to pollution from the sewage farm in the grounds of the county lunatic asylum, and in consequence of this the asylum authorities stopped the sewage irrigation and dismantled the works. At Bradford a small enclosure was arranged at the station hospital for the recreation of the patients. At Halifax no material alterations were made in the barrack buildings, which were generally satisfactory, but it was difficult to warm the rooms sufficiently in winter. It is stated that the ablution arrangements were not entirely sufficient, and that the lighting of the hospital might be improved. At Leeds the barrack rooms afforded just sufficient accommodation for the men, but improvement in cross ventilation was thought to be necessary. Several improvements were effected in drainage during the year. At Leicester the barracks are reported to have been generally satisfactory, but the single men's rooms have a large amount of window space, which renders them cold in winter, and the warming arrangements are somewhat deficient. The surface drainage was improved a good deal, but there is still more to be done. The medical officer at Lincoln calls attention to the water supply, the quality of which was found to be indifferent, but the subject of a new water scheme is said to be under the consideration of the city corporation. The barracks are generally satisfactory, but some of the rooms are cold. There is not sufficient fall for the drainage, but flushing tanks have been provided to assist in remedying this. Improvements have also been made in drain ventilation. At Newcastle-on-Tyne the barracks were satisfactory, afforded enough accommodation, and were properly ventilated and warmed. The deep drainage is good, but the surface drainage requires improvement, especially in the infantry parade ground and the ground in rear of the married quarters. At Pontefract during the year all the drain connections were thoroughly inspected and defects remedied; it was found also that the ventilating pipes were too small, these were, therefore, all removed and larger ones provided. At Sheffield the general sanitary conditions were satisfactory, but it was found that the ventilation of the married quarters was defective; certain structural alterations were, therefore, recommended, which after some time were carried out, with the result that the health of the families has improved. At Strensall camp three additional huts were erected; fire tanks were placed in convenient positions, and shelter shades in connexion with the camp kitchens were erected. At York the general sanitary condition of barracks is good and carefully attended to. At the hospital an annexe was erected having water-closets in each landing, in order that these closets may be cut off from direct communication with the building. At present two married orderlies are located in the main hospital building, which is objectionable, but, as soon as married quarters are built outside, these rooms will be vacated and utilised as wards. It is stated that a lunatic ward is much required.

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North-western District.

The Principal Medical Officer, Deputy Surgeon General S. Archer, reports that the health of the troops was good and the sanitary condition of the barracks generally satisfactory. At several stations the buildings are old and in many respects faulty in construction, but there was no prevalence of disease which could be attributed to local insanitary conditions.

At Ashton-under-Lyne the heating apparatus of the cells was renewed, and other minor improvements effected. The accommodation for married men is not sufficient, and the infant school is too small, but a new one was about to be erected. At Altcar camp a hospital hut for four beds was erected for the reception of sudden and severe cases of sickness or injury which would not well bear removal to Seaforth. At Birmingham the barracks are old, situated in a densely populated part of the town, and are not capable of much improvement. The barracks at Bury are also old, but are well situated and in fair sanitary condition. Gas was laid on to the barrack rooms during the year, water from ablution rooms made to discharge in the open air, and other sanitary improvements effected. At Burnley the barracks are old and not in good repair; the surface drainage also required attention. At Chester all water from baths now discharges into the open; a new bath with hot and cold water was provided for the hospital. At Coventry the barracks are very old and in some respects unsuitable, but they were extremely well kept. At Fleetwood the Euston barracks are out of repair and the drainage is said to be defective; improvements in these respects were about to be undertaken; the hutment barracks are in good order. At Lancaster the barracks are in good order, and the warming of the hospital wards, which had been defective, was improved. At Lichfield the barracks were extremely well attended to, and no alteration was required. The barracks at Hulme, Manchester, are badly situated, but several improvements were effected during the year with regard to ventilation of the drains and protection of cisterns for drinking water. The Salford barracks, also, are old and faulty in construction, but considerable alterations were to be carried out. At Preston the barracks are well built and well situated, though old; the drains were thoroughly examined and cleaned, and a number of old and disused catch pits filled up, floors of the ablution rooms were renewed and benches improved. It is proposed to relay the floors in the barrack rooms on the ground floor, placing a layer of concrete underneath. At Seaforth the sanitation of the barracks is very good; the only complaint was the difficulty of warming the circular ward in the hospital. At Shrewsbury the warming of the hospital, which was unsatisfactory, was improved by providing double sashes to the windows. At Warrington the barracks are built in low lying ground, and considerable difficulty has been experienced in draining it thoroughly, but improvements were effected, particularly in the ventilation of the drains. At Warwick the warming of certain barrack rooms, which were very cold, was improved by blocking up alternate windows. The surface drainage was relaid and the deep drains ventilated. Warrant officers' quarters were about to be erected. At Worcester sanitary conditions were satisfactory; improvement was effected in warming the hospital. At Wrexham also the warming of the barracks and hospital was improved, and in certain married quarters stoves were provided. At Beaumaris militia barracks all the barrack drains were ventilated and a disconnecting pit provided, and at Carnarvon barracks the drainage system was also rearranged.

Eastern District.

The Principal Medical Officer, Deputy Surgeon General C. Hervé Giraud, reports that the health of the troops in the district during the year was generally satisfactory, and with the exception of the epidemic of influenza in the early part of the year there was no unusual sickness.

The sanitary conditions of the several stations were generally good. At Bedford, owing to the strength of the depôt, it was necessary to increase the number of men in each room so as to afford sufficient accommodation. The medical officer in charge recommends that there should be a receiving room for recruits. Improvement in ventilation of the sewers was effected during the year. At Bury St. Edmunds the barracks are reported to be in a good sanitary state, but difficulty was experienced in keeping the rooms suitably warmed in cold weather, and a suggestion as to warming them and the lavatories by means of hot-water pipes has been made. Fire-places in the bedrooms of the married quarters have also been recommended. At Colchester the general sanitary conditions of the barracks for the cavalry and artillery are very satisfactory, but the huts for the infantry are of ancient pattern and frequently need repairing. Among the sanitary services effected during the year were the provision of covers to drinking-water cisterns, the disconnection of the camp drain from the main sewer, ventilation of drains and soil pipes in the artillery barracks, reconstruction of urinals in slate instead of wood, and improvement of the drainage of the station hospital by the construction of man-holes, and the provision of catch pits. At Harwich the barracks and hospital were in a satisfactory sanitary state, and no defects were observed. At Ipswich the barracks were in good repair and afforded sufficient accommodation. Ventilation is satisfactory except in the prisoners' room, which requires an additional window. The number of married quarters is insufficient for requirements. In Landguard Fort some of the rooms do not give the regulation amount of cubic space, but the ventilation is good, and no ill-effects have arisen. The married quarters only allow of one room per family, and are draughty and cold in winter. At Northampton the new barracks are, it is said, excellent in every respect, with the exception of being a little cold in the winter months. The married quarters are also satisfactory. At Norwich the barracks are satisfactory, though more space is required in ablution rooms. Most of the main drains in barracks were opened during the year, and any defects noticed were remedied. Some of the married quarters have not water laid on to them, which is much required. At Warley the general sanitary conditions of barracks, hospital, and accessories were favourably reported on. During the year the entire system of drainage was reconstructed, and two new blocks of married quarters were erected. At Weedon the barracks are well situated at the summit of an incline, and afford facilities for drainage, but, with the exception of the infantry block, are old and indifferently constructed. A new system of drainage has been completed, and the water supply from the town waterworks has been laid on to the barracks. At Great Yarmouth the sanitary conditions were generally well reported on.

Western District.

The Acting Principal Medical Officer, Brigade Surgeon C. A. Atkins, states that the general health of the troops in the district was good, though the number of sick was much increased by the epidemic of influenza at the beginning of the year. The sanitary condition of the different barracks and hospitals was generally satisfactory.

At Brecon the barracks afford good accommodation, are well ventilated, and were kept in good order. The married quarters, however, are said to be scarcely sufficient for requirements. The hospital is satisfactory. At Bodmin an ablution room to be attached to the infectious ward is much required, and a recommendation for its provision was put forward. At Horfield no material change was made in the barracks themselves during the year, but new ventilating shafts were provided to the drains with very satisfactory results. At Cardiff the barracks are satisfactorily situated, and no recommendations for their improvement were required beyond those relating to ordinary repairs of watercourses, drains, &c. In the hospital yard the ground was arranged to give the requisite fall to carry off the surface water. There is no lavatory or

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bath room in connection with the infectious ward, but their provision was suggested. At the Citadel, Plymouth, the barrack buildings are very old, and the floors and roofs require frequent repair; constant attention is necessary to keep them in a sanitary state. The married quarters afforded sufficient accommodation, but those facing the southern ramparts are not thought to be very healthy. At Devonport the Raglan barracks and the Granby barracks are all satisfactorily reported on. The outlying forts are generally in good sanitary condition, though in some cases, the rooms being casemates, there has been some complaint as to ventilation. At Fort Staddon the water supply was largely increased by the construction of a reservoir of concrete fed by a constantly flowing natural spring, which is protected by a small permanent building from any possible source of contamination. At Exeter the barracks and married quarters are in a satisfactory sanitary condition, also the hospital, except that the ward for infectious cases is too near the other buildings, it also required an ablution room and means for disinfecting linen, which defects were about to be remedied. At Newport the barracks are well situated; there was ample accommodation, and the sanitary arrangements were satisfactory. At Pembroke Dock, are a number of brick huts, and a number of wooden huts, it is stated that the latter were supposed to be gradually replaced by the former, but that none have been built for two years. The ventilation of the barracks is satisfactory, but that of the garrison cells not entirely so; it is suggested that new cells should be erected, the present being small and dark. The married quarters are small and insufficient for requirements. The hospital is in good order, but the accommodation is thought to be not quite sufficient at all times. At Taunton the sanitary condition of buildings was good, and the drainage, &c. satisfactorily reported on.

Southern District.

The Acting Principal Medical Officer, Brigade-Surgeon A. F. Preston, reports that the general health of the troops serving in the district was good, but compared unfavourably with that in the preceding year; this is in great measure accounted for by the epidemic of influenza in the early part of the year, together with an increase in the amount of venereal disease.

At Christchurch the sanitary condition of the barracks was satisfactory, and no alterations of any consequence were necessary during the year. At Devizes the barracks, married quarters, and hospital are satisfactorily reported on, as also their sanitary arrangements generally. At Dorchester sanitation was well attended to, and several improvements were effected, among them being concreting the floors of verandahs of married quarters, provision of latrines for married families, and cementing the walls of ablutions rooms; the hospital also was thoroughly done up inside. The general sanitary condition of the Western Forts, Isle of Wight, is reported to have been on the whole satisfactory, and also that of their immediate vicinity. During the summer a standing camp was formed outside Golden Hill Fort, the sanitary arrangements of which were very good. At Gosport the drains of Fort Elson were entirely relaid during the year, and a greater fall given to them. The surface drainage of Forts Rowner and Brockhurst were being relaid. The married quarters at Forts Grange and Rowner are somewhat exposed, and have not sufficient accommodation for families with several children. At Fort Brockhurst also the married quarters are exposed and damp, but two sites for building new quarters, which are needed, were fixed upon. The new barracks appear to have been in satisfactory condition, though it is said that the lower rooms are rather dark. At Hilsea the barrack rooms are good, and the ventilation very good when properly attended to. At Parkhurst the water service has been improved, separate pipes being now furnished for the conveyance of the pure water for drinking purposes, and the less pure for washing purposes; formerly one pipe conveyed both, and the

drinking water was liable to contamination in consequence. At Portland the barrack rooms are satisfactory, but the hospital not entirely so, there are no small wards for special cases, and the wards for infectious cases are not sufficiently isolated. The drainage of the neighbouring village is said to be defective, and the water supply indifferent, At Portsmouth the sanitary conditions of the different barracks are generally satisfactorily reported on. At the Victoria barracks the drainage was thoroughly overhauled, and metal pipes were substituted for earthenware ones, which were defective and leaked at the joinings. The work was not completed at the end of the year, but continued in progress. At Trowbridge the sanitary condition of the barracks was very good, as also that of the hospital, but it is found that the accommodation in the latter is rather limited when cases require isolation. At Weymouth the general sanitation of the barracks was well attended to, and any defect brought to notice remedied. At Winchester the barracks are old, but great care was taken to keep them in good sanitary condition.

Netley.

The Principal Medical Officer, Surgeon-General C. D. Madden, reports that the sanitary arrangements of the Royal Victoria Hospital were carefully supervised throughout the year. The kitchens were kept in good order, the cooking was satisfactory, and the instruction of the men of the Medical Staff Corps in cooking was continued. The rations were generally good, and the issue of frozen beef was stopped.

The general condition of the men's block was satisfactory, except that there was some trouble with the latrines, which were frequently out of order.

The sanitary arrangements, drainage, ventilation, &c. connected with the hospital for women and children are reported to be in a satisfactory state.

The medical officer in charge of the lunatic hospital reports that the sanitary condition of the buildings was well attended to during the year. The warming apparatus worked satisfactorily, and the corridors were kept at a pleasant temperature, a matter of great importance during the winter months. A new drain was constructed leading from the scullery, and was found efficient. The closet pans, Tylor's patent, were found to work admirably, and as the flushing of the old pattern pans is inadequate it is hoped that the former will be supplied in their place. The south stone stairs were fitted with the patent wooden treads, thus completing this most important improvement. Ablution arrangements are very good, and there is an ample supply of baths with hot and cold water laid on. The rations were generally good, any defects when observed were at once brought to notice and soon remedied.

Thames District.

The Senior Medical Officer, Brigade Surgeon W. H. Clapp, M.D., reports that the general health of the troops in the district was good during the year, though the admission rate was increased by the epidemic of influenza in January.

The sanitary condition of the barracks at Chatham is generally well attended to; some of the barracks are old, and the ventilation is not all that could be desired. Several sanitary services were performed during the year; in Chatham barracks the drainage system was entirely reconstructed; in Brompton barracks the sewers underwent extensive remodelling and improvement, and at

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Fort Pitt the drains were explored and improved, and some old cesspits, which were discovered, were filled in. Among suggestions calculated to improve the health of the troops may be mentioned, increased accommodation for married soldiers at Chatham, erection of new married quarters in lieu of certain old and insanitary buildings in the vicinity of St. Mary's barracks; condemnation of the underground rooms in Brompton barracks as living and sleeping rooms, as they are necessarily dark, damp, and imperfectly ventilated; re-modelling Upper Chatham barracks by the removal of certain internal passages and stairs; the construction of new ablution rooms in Chatham barracks in lieu of the present dark, damp, and uncomfortable rooms in the underground portion of the houses; and at Fort Pitt the construction of improved barrack accommodation for the Medical Staff Corps, the present barrack-room being an old wooden structure, which is cold and draughty. At Gravesend the general question of drainage was under consideration, for though the drainage in barracks is said to have been pretty good since the supply of water was more closely looked after, there were at times offensive smells, proving that flushing was not quite efficient; at Shornmead and Coal House Forts new drainage was laid down. At Chattenden a new system of drainage was carried out, and ventilation of cesspits arranged. At Maidstone no alterations to the existing buildings took place; some improvements were effected in the latrine arrangements. At Sheerness the barracks are in good order, conveniently arranged, and well ventilated, and the married soldiers' quarters give sufficient accommodation, are well arranged and comfortable. The outlying forts afford ample accommodation for the number of troops quartered in them; they are, however, undergoing considerable changes in construction. At Shoeburyness the sanitary condition of the barracks and of the Government grounds was generally satisfactory. There was no change in the barrack accommodation, but it was sufficient except for part of the summer, when it was necessary to supplement it by tents. With regard to drainage, it is stated that the local authorities contemplate extending the exit pipe for drainage further out into the sea; this is much to be desired. Several improvements in sanitation in barracks were carried out during the year.

South-eastern District.

The Principal Medical Officer, Deputy Surgeon-General F. Wade, reports that the general health of the troops was good during the year, and had it not been for the epidemic of influenza in the first quarter would have compared favourably with that of previous years. The general sanitary condition of the stations in the Command was satisfactory.

At Brighton in rear of one of the barrack blocks the drains were relaid and an inspection pit built; the surface drainage was also extended. At the married quarters the soil pipes were continued above the roofs, and fresh-air inlets fixed at the head of each drain. The rain-water down pipes were made to discharge over surface gutters. At Canterbury during the year all drains, which formerly ran under buildings, were cut off, an inspection pit added to the main drain, and ventilators added where necessary. In the married quarters down pipes disconnected from drains. At Dover Castle the accommodation in barracks and casemates was sufficient. The drainage throughout the castle was carefully attended to and many improvements effected, several of the drains having been relaid and properly ventilated. Fort Burgoyne is reported to have been in a satisfactory sanitary condition. The hospital is in good order, but does not, it is said, afford enough accommodation for all requirements. At the Citadel barracks and Western outworks the barrack drain was disconnected from the main sewer, and waste pipes disconnected from foul drains and made to discharge over gully traps, besides several other

improvements in this direction. At the South Front barracks new latrines with automatic flushing were substituted for old ones, and the ventilation of latrines improved. At the Grand Shaft barracks the men's quarters are rather old, but were kept in good order and offered sufficient accommodation; but the married quarters are not large enough for requirements. At Hythe the whole drainage system was in process of renewal throughout the barracks, the drains being laid in straight lines with improved inspection pits, and properly ventilated. At Lydd two permanent huts were built and occupied during the season; they are solid, well ventilated, and well lighted. A hut of a similar description has also been built for the accommodation of three officers. The lavatory arrangements are said to be good, the water being drained off into a large concrete tank which is emptied once a week; this worked satisfactorily but requires careful watching. At Newhaven the general sanitary condition of barracks was satisfactory, and some improvements were made in drainage. At Eastbourne the ventilation of the library was improved, and the drainage from the ablution shed was connected with the main drain. At Shorncliffe the old wooden huts are gradually being replaced by brick and concrete buildings, each containing two barrack rooms and bath and ablution room. Seven such buildings were erected in the year under report. The drainage of the camp is said to be fairly good and is well attended to. At the artillery and cavalry barracks all down pipes were disconnected from the main drain and made to discharge in the open. The hospital is old, and recommendations have been put forward for the provision of new buildings at an early date. *United Kingdom.*

Home District.

The Principal Medical Officer, Deputy Surgeon-General Robert Lewer, shows in his annual report that there was a marked increase in the admission rate, but that this was principally due to the presence of epidemic influenza in the early part of the year. The sanitation of the barracks received very careful attention, both as the result of representations made after visits of inspection and the supervision exercised by medical officers in charge. The only instance of the health of the troops being affected by insanitary influences occurred at the Guards' Depôt at Caterham, where an outbreak of enteric fever took place, and it was found that important sanitary defects existed with regard to the drainage generally, the ventilation of sewers, and insanitary conditions in the vicinity. Prompt action was taken, and the necessary improvements speedily executed, with the exception of the disjunction of the sewage and surface drainage, which will be shortly undertaken, as also the abolition of a large cesspool on the adjacent sewage farm. The night urinals were improved by additional ventilation and asphalting, but it is thought it would be better were they cut off from direct communication with the rooms, as they become insanitary from the careless way men make use of them. At the Tower of London the drainage system has been found to be very defective, but it is about to be reconstructed on a new plan. The sanitary condition of the barracks is satisfactory, but the married quarters, it is said, need such radical improvements as to possibly entail the provision of a new building. With regard to ablution accommodation it is reported that additional baths are required. The barracks at St. John's Wood were in good order, but the latrines required remodelling, which is about to be undertaken. At Oxford the sergeants' mess had been enlarged. The window space was so large compared with the wall surface, and the barrack rooms so cold in consequence, that three windows on the east side of each room were built up. All down pipes were disconnected from drains and made to discharge over patent gully traps. At Reading the sewerage was relaid consequent upon the town sewer having been extended towards the barracks at a lower level. At Windsor, in the Victoria barracks, the drainage was reconstructed throughout and provided with frequent manholes, and at the Spital barracks the sewers were ventilated and the soil pipes removed to outside the buildings. In London, at the Chelsea barracks, disconnecting pits

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were about to be constructed, and at Wellington barracks new latrines with automatic flushing apparatus were built in the east wing, and waterclosets supplied to officers' quarters. The married quarters at Wellington House are ill-adapted for families, and from structural defects and situation are not in a satisfactory sanitary condition; the latrines were improved by additional ventilation. At St. George's barracks the rain-water pipes of the main block go direct into the sewer, but this defect was about to be remedied. A larger station hospital than that at Rochester Row is required to meet the wants of the London garrison and the demands made on the already too limited accommodation by men on furlough; it was necessary to transfer a large number of sick to Woolwich for treatment.

Woolwich District.

The Principal Medical Officer, Deputy Surgeon-General J. Warren, reports that the general health of the troops was good, but there was an increase in the number of admissions as compared with the two previous years; this may be attributed to the epidemic of influenza which prevailed in January, and to a large number of cases of scarlet fever which occurred during the year. There was a marked increase in the number of deaths, but as these were chiefly due to pulmonary affections, the increase was probably caused by exceptionally severe weather.

The sanitary condition of the barracks was satisfactory, but the buildings are faulty in construction. No material alteration was made in them during the year. The rooms were kept clean and in good order, warming and lighting being also well attended to. The ventilation of some of the rooms in the Army Service Corps barracks is insufficient, and a recommendation that it should be improved was put forward. The ablution accommodation is said to be on the whole sufficient and satisfactory. It would, however, be a great benefit to the troops if warm water could be supplied to the washhouses and bath-rooms during the winter months. Bathing parades for all corps once a week were instituted in August and September, but it is thought that these parades might with great benefit commence earlier in the year, according to the state of the weather. The drainage is on the whole fairly satisfactory, but admits of improvement; an extensive scheme of reconstruction is under consideration, in the meantime all minor repairs are carried out when necessary. Several minor sanitary improvements were carried out during the year, among them being ventilation of the drains in the Cambridge barracks and provision of traps; improvements in ventilation of certain rooms in the Cambridge barracks, Army Service Corps barracks, and sergeants' mess, Grand Depôt barracks. The rations were generally good, and a considerable improvement was made in the quality and baking of the bread; there was also an improvement in cooking, but it requires to be more varied.

The Principal Medical Officer also makes the following suggestions calculated to improve the health of the troops. More quarters should be provided for married soldiers, as many of those at present occupied are unsuitable and old, and several married soldiers have to live in a cheap and unhealthy part of the town. More bath-rooms in barracks should be provided. The huts in the camp are old and dilapidated, and should be replaced by others of a more modern construction. At the Herbert hospital a separate hospital for infectious diseases is much needed, at present a pavilion has to be appropriated for this purpose. In time of war, or other emergency, this pavilion would be required for sick and wounded. From Purfleet the report as to the sanitary condition of the barracks, hospital, and their vicinity is generally satisfactory.

Aldershot Division. *United Kingdom.*

The Principal Medical Officer, Surgeon-General J. G. Faught, reports that the health of the troops in the division was fairly maintained notwithstanding the prevalence of influenza and an outbreak of scarlet fever.

The sanitary condition of the camp was generally fairly satisfactory. With the exception of the permanent barracks the camp may be said to be under reconstruction, as brick huts are taking the place of the old, much worn wooden huts. The new brick huts are well constructed, with sufficient superficial and cubic space, have an air of comfort and light about them, and are built so substantially that, if necessary, an upper storey could be added. All the buildings accessory to these huts, wash and cook houses, latrines, &c., are well placed, and in every way suitable. The new married quarters are very good, and have ample accommodation as regards number of rooms. The permanent barracks remain as heretofore; it is remarked that in the barracks for the infantry the rooms are not sufficiently high, and that they are not sufficiently light. The married quarters of the cavalry barracks are of the old pattern, and have not the amount of accommodation which could be desired, but they are not unhealthy. With regard to hospitals it is remarked that the Cambridge Hospital is in a very satisfactory condition; but that to provide permanently for the accommodation of the sick of the camp, especially as the force is likely to be increased, the old hut hospitals in the South and North Camps are likely to be abolished, a new hospital built in the latter situation, and the Cambridge Hospital considerably increased. Some difficulty has arisen regarding a site for the new hospital in the North Camp on account of the proximity of that proposed to the sewage farm. This question remained still under serious consideration, as also that of the management of the sewage farm in question.

The water supply from the military works at Bourley is very good and abundant; it is even deemed sufficient to meet the requirements of the increased strength of the troops eventually to occupy the camp.

The rations were generally of excellent quality, and the cook-houses clean, with ample means of cooking in great variety. The cooks and their assistants are generally capable, and a school of cookery has been established in the permanent barracks, which is of great advantage.

The drainage system remained the same during the year, flushing being carefully attended to; any defects which arose were, as far as possible, remedied on representation.

The clothing of the troops was generally satisfactory. Gymnastic instruction was regularly carried out with considerable benefit to the health of the men.

The medical officer in charge, Royal Military College, Sandhurst, reports that the sanitary conditions during the year were good, and the health of the inhabitants generally satisfactory.

Channel Islands.

The Senior Medical Officer, Brigade Surgeon C. S. Close, remarks that the health of the troops quartered in the Channel Islands was satisfactory, and had it not been for the epidemic of influenza prevalent during the early part of the year would have stood in favourable contrast to that of the preceding year. The sanitary conditions are said to have been well maintained. The barrack accommodation in the Channel Islands is fairly good, although the conditions vary greatly in the different posts occupied. In some instances the barracks are old casemates as at Fort Regent, and throughout the two commands almost every variety of barrack-room plan is to be found, from attics to accommodate three men to rooms of modern construction. Possibly this comparative segregation, taken in conjunction with the general mildness of the climate, may have its advantages and be operative in maintaining a high

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standard of health. In only one instance was disease attributed to the existence of an insanitary condition, and that of a temporary nature, a case of enteric fever caused by the process of remodelling some drains. The amount of barrack accommodation for married soldiers was recently increased and remained still in progress of extension; a site has also been selected for a new block of married quarters in the vicinity of Fort Regent. Sewage removal is effected either by water or the dry-earth system according to the circumstances at particular stations; both methods were favourably reported on. With regard to water supply it is remarked that at St. Heliers the station hospital and Elizabeth Castle are supplied by the Jersey Waterworks Company, the supply to the latter place being supplemented by rain water collected in tanks and used for flushing purposes. Fort Regent depends on a deep well within the works from which the water is raised by steam power and stored in subterranean tanks. Elsewhere rain collected from the roofs and spring water only are available, storage and filtration being well attended to in all cases. On the whole the supply seems fairly adequate, although at certain stations water for flushing purposes is apt to run somewhat short during prolonged periods of dry weather.

Among the sanitary services completed during the year were, at Fort Regent, Jersey, some alterations in regard to drainage and also to distribution of water supply, at Elizabeth Castle certain old brick drains found to be defective were removed and glazed earthenware pipes substituted for them. In Guernsey the only change reported was at Jerbourg, where certain barrack buildings were put in a state of good repair and appropriated as married quarters. At Alderney improvements to drainage at Fort Albert, improving the ventilation of ablution rooms and making waste pipes discharge over gratings in the open air. At Fort Essex the main drain was relaid and carried outside directly without passing under the buildings as formerly; flush-out closets substituted for older pattern, and porches constructed to doors most exposed to the weather.

North British District.

The officiating Principal Medical Officer reports that the troops were healthy during the year, and the sanitary condition of barracks generally satisfactory.

At Aberdeen the barracks are old, but were kept in good order. Accommodation sufficient and ventilation very good. The drains in connection with the hospital were found defective, they were therefore taken up and relaid. At Ayr the barracks are in a satisfactory condition, and considerable improvement was effected during the year in the ventilation of the whole drainage system. The sanitary report from Berwick-on-Tweed is generally satisfactory, though the barracks are very old, and, in the opinion of the medical officer in charge, capable of some improvement. A new guard room, large and well-ventilated, was completed and opened in the course of the year. At Edinburgh Castle the barracks are old but are well cared for. Some defects in the lighting of passages and in the ventilation of washhouses are mentioned. Representations were made, and were under consideration as to the better warming and ventilation of the cells. At Leith Fort also the buildings are all old, but are in good condition, well ventilated, and afford sufficient accommodation. The drainage generally is good, and there was some improvement in the waste pipes from bath and ablution rooms. At Inchkeith there is a small permanent camp consisting of seven huts to which provision of ledges at foot of barrack-room doors was recommended on account of rain blowing in during bad weather. At Piershill the barracks, hospital, and outbuildings appear from the report to be generally in good sanitary condition, but the medical officer in charge remarks with regard to the surroundings that, with gasworks at the north-west corner and a sewage farm to the west, foul smells must exist, which cannot be beneficial to health, though no sickness can be directly traced to either of them. At Fort George the barracks, though old, are strongly built and in a good state of repair; but the ventilation in the barrack-rooms and married quarters is not

entirely satisfactory. At Maryhill, Glasgow, the accommodation in the men's barracks is ample, but in the married quarters it is very limited. The general sanitary conditions are good, and some improvements in the ventilation of drains were effected during the year. At Glencorse, accommodation in barracks is sufficient and ventilation is ample. The hospital is also in good sanitary condition, with the exception that the ventilating stoves in the large wards were troublesome through smoke; attention was called to this defect. The insanitary practice referred to in previous reports of unloading refuse at the adjacent railway station was continued, but after representation to authorities its discontinuance was recommended for the present. At Hamilton during the year the sink pipes were disconnected from the main drains and made to fall over gullies in the open air. At Inverness the barracks were in good order, but it was thought that double windows would be an improvement. The accommodation for married people is good, but complaints were still made of smoky chimneys. At Perth the barracks are old, but have afforded sufficient accommodation and were kept in good order. At Stirling the general sanitary condition of the barracks and their surroundings are reported to be good. Several old drains were relaid and properly ventilated during the year. *United Kingdom.*

Belfast District.

The Principal Medical Officer, Deputy Surgeon-General A. M. Tippetts, reports that the general health of the troops in the district continued to be exceptionally good throughout the year. The general sanitary condition of the several stations is also reported to be satisfactory.

At Armagh the barracks, huts, and hospital were in good order, and the accommodation was sufficient and suitable. At Belfast the barracks are all occupied on the old scale of accommodation, and according to this there was no overcrowding. The Victoria barracks and the huts at Willow Bank are in good order. The station hospital was insufficient for the requirements of the garrison, but it is in process of extension. New wards are being built, and larger infectious, lunatic, and prisoners' wards have already been completed. To supplement the present hospital five barrack rooms in one of the new blocks of barracks in the upper infantry square were temporarily occupied as wards for sick, accommodating seventy-three patients. The drainage and conservancy are reported good. New barracks are in contemplation at Holywood, and it is believed will shortly be commenced. At Belturbet there was ample accommodation both in barracks and hospital, and the sanitary arrangements were good, though there was some little difficulty in carrying out the dry-earth system. At Dundalk the allotment in barrack accommodation is on the old construction, but it was not found that the health of the troops suffered in any way. The accommodation for married soldiers was fairly good, and their quarters were in good order. The hospital was painted and thoroughly cleaned during the year. At Dunfanaghy the detachment is quartered in a portion of the local union, and the arrangements are fairly satisfactory, but improvement in the matter of drainage is required. At Enniskillen also the accommodation in barracks is on the old construction; but the barracks and hospital are generally in good sanitary condition. The accommodation for married soldiers is insufficient. Houses are hired outside barracks, but they are said to be greatly wanting in sanitary arrangements. Some improvements have, however, been carried out during the year. At Londonderry the sanitary conditions of the barracks continued good, and no structural alterations affecting sanitation were made during the year, but it is said that a number of quarters for married families which are much required are about to be erected. At Newry the barracks are in good order, but here also there is a deficiency of married quarters. At Newtownards the troops are in huts, the accommodation in which appears to be rather limited. At Omagh the sanitary arrangements are generally well reported on.

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The rations for the troops were, it is said, satisfactory at all stations. The clothing of the men was carefully attended to with very satisfactory result as regards health. At Belfast a number of men went through a gymnastic course with considerable benefit.

Dublin District.

The Principal Medical Officer, Surgeon-General J. Sinclair, remarks in his report on the sanitary condition of the district that the barracks are, with very few exceptions, old buildings not very suitable for housing the troops, but of late years many improvements have been effected. In the city of Dublin many of the barracks are situated in congested districts, inhabited by the very poor who live in dilapidated tenements, where ventilation is defective, and where there is a low standard of health. This acts on the health of the soldier and accentuates the evils arising from any defects in barracks.

In Dublin the Royal barracks, which of late years furnished so large a number of cases of enteric fever, were entirely vacated, and many and extensive improvements, particularly with regard to drainage, were recommended, some of which are in process of being carried out. Linen Hall barracks were also vacated, after the occurrence of several cases of enteric fever, probably owing to defective drainage and ventilation. Attention was called to the state of the drainage at Portobello barracks, and its reconstruction recommended. A small part was relaid from the married quarters and near the hospital, but the whole system, it is said, requires to be undertaken. Ship Street barracks were vacated from August to October, the troops being placed under canvas in Phœnix Park. Many and important alterations were then made in them, chiefly in the direction of improving ventilation and laying down concrete floors in the basement. The healthiness of the barracks was much improved, and no more cases of enteric fever occurred among the troops after their return up to the end of the year. At Wellington barracks extensive alterations and improvements have been and are being carried out in adapting the building to the accommodation of the troops. At Richmond barracks increased bath accommodation was provided. At Athlone the barracks are generally in a good sanitary condition, but some are of old construction, and the lower rooms rather gloomy and dark. Several improvements with regard to disconnection of drains with sewers and ventilation of drains were carried out during the year. At Birr the barracks were in a satisfactory state, but there was some overcrowding, relieved in the summer months by placing men under canvas. At Galway the Renmore barracks are satisfactorily reported on, but the rooms in the Shambles barracks are said to be small, ill-constructed, and badly ventilated; they are, however, only partly occupied by men for whom there is not sufficient room at Renmore. The Castle barracks are old and ill-suited for troops; they are principally used as stores, and as quarters for a few married families. At Mullingar the barracks and hospital were in a satisfactory sanitary condition, and the married quarters comfortable, though insufficient in number; additional quarters have been sanctioned. At Oughterard improvement was effected in the water supply, and a bath-room provided; and at Birr also the water supply was considerably improved. At Ballaghadereen an ablution and bath house was fitted up, also a cook-house, and earth-closets provided to the latrines. At Tullamore bath arrangements were provided.

The rations for the troops at all the stations were almost invariably of good quality, and the cooking arrangements satisfactory. The clothing of the troops is suitable. In some corps men wore knitted jerseys under their tunics with good result.

Cork District.

The officiating Principal Medical Officer points out that the ratio of admission into hospital was somewhat greater than that in the preceding year, but that this was more than accounted for by the number of admisisons for epidemic influenza.

With regard to the sanitary condition of the different stations the following points are noticed in the reports of medical officers. At Ballincollig the ventilating shafts of the barrack rooms were considerably improved, and the entire drainage system of the barracks was in process of renewal. At Cork the barracks are old, but on the whole satisfactory. Some improvements in drainage were effected during the year, and some others are still required. The station hospital is old and unsuitable, but it was kept in a sanitary condition. At Fort Elizabeth considerable improvements in drainage were carried out. At Fermoy the barracks generally were in a satisfactory sanitary condition, and there was no overcrowding. The married quarters in the new barracks were satisfactory and in good order, but it is said that those in the old barracks are some of them very uncomfortable, and there was not sufficient accommodation. At Queenstown the station hospital is of old construction, and the wards are small, containing only an average of three patients; but the general sanitary condition is satisfactory. At Limerick the new barracks afforded sufficient accommodation, but the rooms are small; the vicinity of the barracks is not in a satisfactory state of cleanliness. The Castle barracks have dirty and insanitary streets around them on three sides, but the barracks themselves were in good order, though the rooms are small and the ceilings too low. The married quarters are satisfactory as to sanitary arrangements, but there are not sufficient of them for requirements. At Buttevant the sanitary arrangements were carefully carried out, but here also the accommodation for married people is not satisfactory. At Cahir the barrack accommodation is sufficient and the ventilation ample; the drainage arrangements, however, are thought not be entirely satisfactory. The barracks at Clonmel are reported to be comfortable, well ventilated and warmed. On account of the occurrence of a case of enteric fever the drains in barracks were overhauled, but no defects were discovered. The married quarters are in a new block of buildings to the north of the barracks, and are in a good sanitary condition. At Kilkenny the barracks are said to be well and comfortably arranged for the welfare of the men, and the accessory buildings in good sanitary condition. It is understood that new married quarters, which are much required, are about to be erected. The barracks at Kinsale are generally satisfactory, but the accommodation at Fort Charles is said to be bad, the rooms in almost all cases being dark and damp, and the married quarters are not good. At Templemore the barracks are good, but there are no married quarters, some barrack rooms being occupied as such, which is objectionable. The lighting of the hospital was not found to be satisfactory. At Tipperary and Tralee the sanitary condition of barracks, married quarters, and hospital are all reported on satisfactorily. At Waterford the barracks are on a good site, but the advantage is counterbalanced by the surroundings—narrow, ill-kept, and insanitary streets.

Curragh District.

The Senior Medical Officer, Brigade Surgeon J. Wilson, M.B., reports that the general sanitary condition of the district during the year was good.

At the Curragh the huts are old and constantly need repair; the reconstruction of the camp is, however, under consideration. There was sufficient accommodation for the troops, and ventilation was generally satisfactory. The arrangements for warming are not reported as entirely satisfactory, and increased allowance of coal was frequently recommended. The state of the surface drainage is said to be still somewhat defective, but improvements in

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this respect were recommended. The water supply is abundant, and, with the exception of being a little hard, is of good quality; it is pumped up by steam power from two deep wells and distributed throughout the camp by means of pipes. The rations were of good quality, with an abundant and varied supply of vegetables. The methods of cooking the rations are sufficiently varied. The latrine arrangements on the dry-earth system are said to be satisfactory, and much more so than waterclosets, the abolition of which was recommended. The hospital was in a satisfactory sanitary condition, ventilation and warming satisfactory; the warming of the verandah is carried out by means of hot-water pipes, which contributes largely to the warmth and comfort of the whole building. Drainage, latrines, &c., were kept in good order, though frequent requisitions for repairs were necessary.

At Newbridge during the last four months of the year the accommodation for the troops was not quite sufficient, owing to the increased strength of the cavalry regiment which arrived in course of relief. The condition of the drainage was satisfactory except as regards the surface drains, which were constantly getting out of repair, particularly about the stables. Bath-room accommodation has been provided for the cavalry barracks at Newbridge, and a constant supply of water, instead of an intermittent one, for ablution and bath rooms and latrines. In the hospital, improvements in the watercloset arrangements were carried out.

III.—ON THE HEALTH OF THE TROOPS SERVING IN THE MEDITERRANEAN.

Sickness and Mortality.

I.—Gibraltar.

Gibraltar.

The average strength of the warrant officers, non-commissioned officers, and men serving in the Command during the year was 4,659, and the force comprised seven batteries Eastern Division, Royal Artillery, four companies Royal Engineers, the 2nd Battalion South Lancashire Regiment, the 1st Battalion Royal Highlanders, the 1st Battalion South Staffordshire Regiment, and the 3rd Battalion King's Royal Rifle Corps, also detachments, Army Service Corps, Medical Staff Corps and Ordnance Store Corps, and Garrison Staff. The only change during the year was the departure of the 25th company Royal Engineers for Hong Kong on relief by the 32nd company from England.

In the subjoined table will be found the principal statistics of sickness and mortality among the troops in garrison :—

1890. Average Strength.	Admissions.	Deaths			Invalids		Average daily Sick.	Ratio per 1,000 of Strength.				
		In the Command.	Of Invalids.	Total.	Sent Home.	Finally Discharged.		Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.
4,659	3,524	15	—	15	56	46	187·27	756·3	3·22	12·02	9·87	40·19

Compared with corresponding ratios in the preceding year an increase has occurred in the admission rate equal to 137·1 per 1,000, and there is a fractional increase in the ratio constantly sick, but the death rate has declined by 2·45. Compared with average similar ratios for the previous 10 years a decline is observed in all these rates, being 42·5 in the case of admission, 2·91 in that of mortality, and 8·32 in that of constant inefficiency through sickness.

The average sick time to each soldier was 14·67 days, which is longer than the corresponding period in the previous year by a quarter of a day, but shorter than the average period in the preceding 10 years by three days. The average duration of each case of sickness was 19·40 days, less than in the previous year by 3·87 days, and than the decennial average period by 2·76 days.

The principal statistics of sickness and mortality in the different corps which served in the garrison during the year will be found in Abstract XL. It will be observed that the highest admission rate was 949·6 per 1,000 in No. 12 Battery, Eastern Division Royal Artillery, followed by the 2nd Battalion South Lancashire Regiment with 859·8; the lowest ratio was 343·5 in No. 24 Battery, and the next above 389·7 in No. 26 Battery, Eastern Division Royal Artillery. The greatest amount of inefficiency through sickness was in No. 27 Battery, Eastern Division, 59·32 per 1,000, the next in No. 12 Battery, 47·63, and then 46·72 in No. 3 Battery; the lowest ratio was 18·24 in No. 24

Gibraltar. Battery, the next above being 28·31 in No. 9 Battery. With regard to mortality it is observed that no death occurred in the Artillery, and among the infantry regiments the highest death rate, 5·04 per 1,000, was in the 1st Battalion Royal Highlanders, and the lowest, 2·41, in the 1st Battalion South Staffordshire Regiment.

With reference to the influence of age on sickness and mortality it is calculated that the admission rate among men under 20 years of age was 684·8 per 1,000 as compared with 509·8 in the previous year, among men between 20 and 25 years of age the rate was 895·6 as compared with 753·4, among men between 25 and 30 years of age the rate was 656·2 as compared with 531·6, and among men over 30 years of age the rate was 542·6 as compared with 320·5. The ratio of mortality of men under 20 years of age was 2·86 per 1,000, of men between 20 and 25 years of age 3·74, of men between 25 and 30 years 2·36, and of men over that age 4·15, as compared with *nil*, 3·71, 7·82, and 10·98 respectively in the preceding year. As to the influence of service in the Command on sickness amongst the troops it is found that the admission rate among men under one year's service was 1465·5 per 1,000 as compared with 945·2 per 1,000 in the previous year, among men in their second year of service the rate was 747·2 as compared with 422·6, among men in their third year of service the rate was 714·0 as compared with 616·5, and among men over three years service in the Command the rate was 549·6, as compared with 433·9 in the previous year. The mortality rate among men in their first year of service in the Command was 2·87 per 1,000, in the preceding year it was 10·27; among men in their second year of service the death rate was 6·88, but in the preceding year there was no mortality among men at this service; among men in their third year of service the death rate was 3·42, which only differs slightly from the corresponding rate in the previous year, 3·11, and among men over three years service the mortality rate was 1·85, as compared with 7·52 in the previous year.

The admissions for mortality and invaliding according to the different groups and orders of diseases are shown in Abstract II.

General Diseases.—*Diseases dependent on Morbid Poisons.*—Only two admissions are returned under the head of *eruptive fevers*, one for chicken-pox and one for dengue.

Enteric fever caused 26 admissions and 4 deaths, being in the ratios of 5·6 and ·86 per 1,000 respectively. The admission rate is lower than that in the preceding year by 3·4, and than that of the average of the previous five years by 9·1; the mortality rate is also lower in both these comparisons by 1·03 and 1·51 respectively. The per-centage of mortality to attack was 15·4, that in the previous year having been 20·9, and the average for the preceding five years 16·17. The cases, it is stated, were of ordinary character, but pneumonia was a frequent complication, and severe diarrhœa with hæmorrhage occurred in several cases.

Simple continued fever.—Under this head 142 admissions and 2 deaths are returned, being in the ratios of 30·5 and ·43 per 1,000 respectively. The admission rate is higher than that in the preceding year by 1·7, but lower than the average rate for the previous five years by 23·0 per 1,000. Many of the cases were severe and suffered frequent relapses. Rheumatic complications were often met with, and convalescence was very protracted. The two deaths were recorded under this heading as they presented no obvious distinguishing characteristics of enteric fever.

Dysentery caused 3 admissions as compared with 8 in the previous year, the cases are reported to have been severe.

Influenza appeared in an epidemic form in the early part of the year, as many as 733 admissions being recorded amongst the non-commissioned officers and men. The ratio of admission was 157·3 per 1,000. The Principal Medical Officer, Surgeon-General R. W. Meadows, states that, in addition to the cases admitted into hospital, there were very many of a mild character which did not come under treatment. The first case among the troops in garrison occurred in the Grand Casemates on the 6th January, but the disease had made its appearance amongst the civil population from Spain about a fortnight before it attacked the troops. The disease extended rapidly to all parts of the rock, except Europa and the North Front, and by the end of the

month 634 cases had been admitted, after this the disease quickly decreased in prevalence, and by the middle of February the epidemic had almost subsided. *Gibraltar.*

"The following are the varieties of influenza admitted into the station "hospital:—1. When the disease appears only to attack the muscular system, "and is characterised by severe aching and shooting pains in the back and "limbs, with fever, headache, and great depression. 2. When the respiratory "system is affected, coryza, cough, little or no expectoration, muscular pains, "severe headache, and high temperature, sometimes acute bronchitis and "œdema of the lung follow. 3. In some cases gastro-enteric catarrh existed, "evidenced by epigastric pain and tenderness, nausea or vomiting, and "diarrhœa with fever and general pains. The sequelæ were, as a rule, "unimportant and confined to the muscular and respiratory systems.

Malarial fevers were represented by two cases only, one of ague and one of remittent fever, both believed to have been contracted elsewhere.

Septic Diseases.—7 admissions for erysipelas and one death occurred. The cases were all idiopathic, had no connection with each other, and, with the exception of the fatal case, were mild and recovered speedily. The admission rate was 1·5 per 1,000, as compared with *nil* in the previous year.

Venereal Diseases.—The number of admissions returned as *primary syphilis* was 249, equal to a ratio of 53·4 per 1,000, which is higher than the corresponding rate in the previous year by 21·7. Including simple venereal ulcer, which caused 268 admissions, the admission ratio for primary venereal sores was 110·9 per 1,000, which is below the corresponding ratio in 1889 by 2·7, and below the average rate of five years by 25·3. *Secondary syphilis* caused 86 admissions, or 18·5 per 1,000. This rate shows a decline of 9·0 from that in the previous year, and one of 15·1 from the average rate of five years. *Gonorrhœa*, with an admission rate of 86·7 per 1,000, dependent on 404 admissions, was less frequent than in the previous year, the ratio being lower by 10·4; it was also lower than the quinquennial average rate by 33·8. The total admission rate for all forms of venereal disease was 216·1 per 1,000, which is below the corresponding total rate in the previous year by 22·1, and is below the quinquennial average rate by 74·2. The total amount of constant inefficiency on account of these diseases was equal to 15·21 per 1,000, which is lower than the rate in 1889 by 1·51, and below the average rate by 3·96.

Parasitic Diseases.—6 admissions are returned, all cases of tænia solium. *Alcoholism* caused 15 admissions, or 3·2 per 1,000, as compared with 2·7 in the previous year. *Debility* shows a ratio of 8·4 per 1,000, dependent on 39 admissions, mostly of men who had previously suffered from fever; the admission rate is higher than that in the previous year by 4·6.

Rheumatism.—155 cases are recorded, being in the rate of 33·3 per 1,000, which is higher than the corresponding rate in the previous year by 2·4, but below the average rate of five years. There were only 4 cases of rheumatic fever, but these were somewhat severe. No death occurred.

Tubercular diseases were represented by two cases of tubercular disease of the lungs, and one of general tuberculosis, which terminated fatally. In the previous year there were 4 cases and one death.

There were 10 admissions for other diseases of this group; they comprised 6 for non-malignant new growth, chiefly papilloma, two for anæmia, and two for scrofula. No death occurred.

Local Diseases.—*Diseases of the Nervous System.*—33 admissions occurred but no death. The admission rate, 7·1 per 1,000, is higher than in the previous year by 1·9, and is also above the quinquennial average rate. The principal cause of admission was neuralgia 20 cases, and the remaining cases included 7 of epilepsy, 3 of paralysis, 2 of mental disease, and 1 of somnambulism.

Diseases of the Eye caused 56 admissions, equal to a ratio of 12·0 per 1,000, which is lower than the ratio in the previous year, and also somewhat lower than the average rate. 35, or nearly two thirds of the admissions, were for conjunctivitis, and there were 12 for iritis, the remainder being for various causes.

Diseases of other Organs of Special Senses.—The admission ratio was 4·1 per 1,000, an increase of 1·6 on the last year's rate, but below the average rate. Of 19 admissions 17 were for aural diseases, principally inflammation of external meatus, and 2 were for nasal affections.

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Diseases of the Circulatory System caused 12 admissions, equal to a rate of 2·6 per 1,000, which differs only fractionally from the last year's rate and from the average. The admissions comprised 4 for valvular disease of the heart, 3 for varicose veins, 2 for phlebitis, and 1 for syncope.

Diseases of the Respiratory System were the cause of 105 admissions and 3 deaths, being in the ratios of 22·5 and ·64 per 1,000, as compared with 20·8, and ·84 in the previous year. The admission ratio is, however, below the quinquennial average rate. 85 of the admissions were due to bronchial affections, and the remainder comprised 6 of pneumonia with three deaths, 4 pneumonic phthisis, 4 pleurisy, 5 pulmonary hæmorrhage, and one of asthma.

Diseases of the Digestive System caused 342 admissions and 1 death. The admission rate, 73·4 per 1,000, is below the corresponding rate in the previous year by 9·2, and is also below the quinquennial average rate. The principal causes of admission were affections of the mouth or throat 133 cases, dyspepsia 82, diarrhœa 50, hepatic disease 23, &c. The death was due to intestinal obstruction.

Diseases of the Lymphatic and Glandular System.—45 admissions occurred, equal to 9·7 per 1,000, an increase of 1·7 on the last year's rate, though about the average rate.

Diseases of the Urinary System were represented by a single admission for incontinence of urine; but *diseases of the generative system* caused 315 admissions, or 67·6 per 1,000, which is less than in the preceding year by 29·7, and below the average rate of five years. Simple venereal ulcer was the chief cause of sickness, 268 cases, and among the remainder the principal was orchitis 31 cases.

Diseases of the Organs of Locomotion gave an admission rate of 7·9 per 1,000, dependent on 37 cases, all but 7 being synovitis. The admission rate is above the average, and higher than the last year's rate by 3·5.

Diseases of the Connective Tissue caused 102 admissions, or 21·9 per 1,000, an increase of 5·1 on the last year's rate, and on the average rate.

Diseases of the Skin.—185 admissions are recorded, the ratio being 39·7 per 1,000. An increase is observed of 7·8 as compared with the last year's rate, but the rate is about the average. The principal causes of sickness were, as usual, itch, ulcers, boils, &c.

Poisons.—Under this head one admission is shown, a case in which a man accidentally swallowed some aconite liniment; an emetic was administered and he soon recovered.

Injuries.—378 are returned and 3 deaths. The admission ratio, 81·1 per 1,000, is lower than in the previous year by 8·6, and is a good deal below the average rate. There was one case of multiple injury due to a large portion of rock falling on a man. Among local injuries the principal were contusions, wounds, and sprains. The three deaths were all due to gunshot wound; one was suicidal, a man having shot himself while in a state of temporary insanity; one was homicidal, a man having been shot while on patrol duty by a Spanish sentry; and the third was accidental, a man being shot by a comrade while examining a revolver. One case of gunshot wound of the arm is mentioned; it is said to have been a case of attempted suicide while temporarily insane. No motive was assigned for the act beyond that the man had received bad news from home.

Invaliding.—The number of men invalided home during the year was 56, being in the ratio of 12·02 per 1,000, less than half the corresponding rate in the previous year, and below the average rate for ten years by 13·25 per 1,000. Among separate corps, and excluding those whose average annual strength did not exceed 100 men, the highest invaliding rate was 45·80 per 1,000 in No. 6 Battery, Eastern Division, Royal Artillery, and the next rate 30·30 in No. 27 Battery; in Nos. 9 and 24 Batteries there was no invaliding, and there was a low rate, 6·08 per 1,000, in the 3rd Battalion King's Royal Rifle Corps. Invaliding according to age was as follows:—Among men under 20 years of age 11·46 per 1,000, as compared with 15·69 in the preceding year, among men between 20 and 25 years 8·95 as compared with 26·4, among men between 25 and 30 years 13·58 as compared with 26·71, and among men over that age 20·79 as compared with 18·3 in the previous year. With regard to invaliding

according to length of service in the Command, the ratio among men in their first year of service was 15·80 per 1,000 as compared with 13·70 in the preceding year; that among men in their second year of service was 18·92 as compared with 49·49; that among men in their third year was 8·56 as compared with 27·34; and that among men over that service 8·12 per 1,000 as compared with 16·72 in the preceding year. The principal causes of invaliding were as follows:—Continued fever 14 cases, or 3·01 per 1,000, of which 8 were enteric fever, rheumatism 9 cases, or 1·93 per 1,000, and diseases of the respiratory system 5 cases, or 1·07. In the preceding year also invaliding was most frequent from these causes. *Gibraltar.*

The number of men finally discharged as medically unfit for further service was 46, being in the ratio of 9·87 per 1,000, which is higher than the corresponding rate in the previous year by 2·10, and fractionally above the decennial average rate. The principal disabilities necessitating final discharge were debility 9 cases, tubercular diseases and diseases of the nervous and circulatory systems 4 cases each, and rheumatism, diseases of the respiratory and glandular systems, diseases of the organs of locomotion, and injuries 3 cases respectively.

Officers.—The average strength of officers was 158, and there were 92 cases of sickness and one death. The ratio of prevalence of sickness was 582·3 per 1,000, which is higher than in the preceding year by 111·3. The principal cause of sickness was influenza, of which 22 cases occurred, but none were severe in character. One officer contracted diphtheria, which was prevalent in the town at the time. One officer had a severe attack of enteric fever, but recovered and was invalided to England. There were 11 cases of simple continued fever, all recovered; but in one invaliding was necessary. There was also one case of fracture of the leg, after which invaliding for change was granted. One death occurred from dilatation of the heart.

Women.—The average strength was 257, and there were 212 admissions into hospital and 2 deaths, being in the ratios of 824·9 and 7·78 per 1,000 respectively, the former showing an increase of 120·8, and the latter a decrease of 10·95. Among the admissions were 40 for influenza, most of which were mild and soon yielded to treatment. There was one case of enteric fever, which recovered, and one of puerperal septicæmia, which terminated fatally. The other fatal case was one of pneumonic phthisis.

Children.—The average strength was 486, the number of admissions 357, and of deaths 17. The admission ratio was 734·6, and the death rate 34·98 per 1,000, which are lower than the corresponding rates in the previous year by 101·6 and 15·70 respectively. The principal causes of sickness were influenza 52 cases, simple continued fever 46, bronchitis 38, diarrhœa 30, and teething 22. There were 5 attacks of diphtheria, 5 of scarlet fever, 4 of measles, and 7 of dengue. The deaths were 3 from debility, 3 from bronchitis, 2 from diphtheria, 2 from dysentery, and one from paralysis, tetanus, convulsions, croup, pneumonia, teething, and diarrhœa respectively.

Sanitary Conditions.—The Principal Medical Officer reports that the improvements necessary to render the rock more healthy are well understood and recognised by the authorities, so much so, that a most elaborate scheme of main drainage also one for water supply has been published by authority, but not as yet adopted. The report in substance recommends tunnelling through the rock for a sewage outfall on the eastern side. Should, however, water be found on the way, and it may be expected just above high-water level some distance in the body of the rock, the work would be converted into a water supply for the station, and the sewage conveyed by an alternative scheme to Europa through extensive tunnelling also.

A great objection to the present sewage outfalls is the contamination of the foreshore along which the city and many of the barracks are located, but this, however, it is said, is not wholly due to the inhabitants and troops, but in part to the ships which are from time to time moored alongside or near the New Mole.

The fresh water supply was insufficient for the wants of the garrison, though the rainfall was plentiful. This was owing to faulty tanks and neglect of

Gibraltar.

making full use of this rainfall. Many tanks had to be cleaned out and examined as analysis showed contamination, and in one large one the engineering difficulties were great, as several attempts were made to remedy defects which existed before success was obtained.

The Principal Medical Officer remarks that the subject of new buildings is a matter of importance in a fortress. Houses have been erected on previously unoccupied land, and small tenements replaced by larger ones, many of inordinate height, to the pecuniary advantage of the landlords and to the detriment of an already crowded and confined space.

At the North Front all the huts were concreted beneath except the married quarters, but this was about to be estimated for. Some floors were found to be in bad repair and were attended to. The accumulation of seaweed along the shore, which had become offensive, was removed, and arrangements were entered into for this to be done periodically. Improvement was effected in the carrying out of the dry-earth system, and greater supervision was exercised than formerly. At the Grand Casemates the removal of the latrines to a more distant and open space was approved of. It is in contemplation to build rooms for men over the present upper floor of the barracks, to give up those on the ground floor as barrack rooms and utilise them as stores. Increased light in certain of the barrack rooms is found to be necessary. At Orange Bastion, certain barrack rooms were found to be damp from leakage; attention was paid to them it is hoped with satisfactory result. At Wellington Front the rooms are dark; a suggestion was made, therefore, to enlarge the loop holes and fill them with glass windows, but did not meet with approval. In the Town Range barracks there is much useless and cumbersome masonry in rear which obstructs light and ventilation; it is understood that this will be cleared away if the barracks are retained. In the South barracks also the rear of the buildings is said to be cumbered with useless masonry which prevents free circulation of air and light, but it is proposed to remedy this when accommodation elsewhere can be found for a few families the alteration would displace. The Station hospital having been divided and part handed over to the navy the accommodation for the sick of the garrison is quite insufficient, and the use of barrack rooms for this purpose was resorted to. A proposal for a new station hospital was put forward.

The sanitary services effected during the year were very numerous, particularly as regards improvements in drainage, &c. Ventilation was attended to and improved in many instances. Concrete laid down under certain floors and under huts. In addition to the improvements carried out arrangements were made for carrying into execution several others in the course of the succeeding year.

II.—Malta.

Malta.

The average strength of the troops serving in Malta during the year was (with the exception of the Royal Malta Artillery) 7,055. The garrison was composed as follows:—Throughout the year there were six batteries of artillery, the 6th, 12th, 25th, 35th, 36th, and 37th Batteries Southern Division, two companies Royal Engineers, the 1st Battalion Welsh Regiment, 1st Battalion Royal Berkshire Regiment, 1st Battalion Royal West Kent Regiment, 1st Battalion Shropshire Light Infantry, 2nd Battalion Connaught Rangers, detachment 2nd Battalion Essex Regiment, detachments Army Service Corps, Medical Staff Corps, and Ordnance Store Corps, and Garrison Staff. In addition to the above the 14th and 32nd Batteries, Southern Division, Royal Artillery, arrived from England in March; the 1st Battalion Bedfordshire Regiment arrived from England in February, relieving the 2nd Battalion Border Regiment, which proceeded to India, and was itself relieved in order to proceed to India in December by the 2nd Battalion Royal Scots.

The principal statistics of sickness and mortality are shown in the subjoined table :— *Malta.*

1890. Average Strength.	Admissions.	Deaths			Invalids		Average daily Sick.	Ratio per 1,000 of Strength.				
		In the Command.	Of Invalids.	Total.	Sent Home.	Finally Discharged.		Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Average Constantly Sick.
7,055	4,151	60	9	69	160	93	270·13	588·3	9·77	22·68	13·46	38·28

Compared with corresponding ratios in the preceding year it is found that the admission rate has increased by 39·0, the death rate by 3·64, and the constantly sick rate by 1·47 per 1,000, but in comparison with average ratios for the preceding 10 years the ratio of admission has declined by 140·8, and the ratio of constant inefficiency by 8·30 per 1,000, the mortality rate, however, shows an increase of 1·09.

The average sick time to each soldier was 13·97 days, longer than in the preceding year by half a day, but shorter than the average period for the previous ten years by three days. The average duration of each case of sickness was 23·75 days, which is shorter than in the previous year by ·71 of a day, but longer than the decennial average period by ·44 of a day.

The statistics of sickness and mortality in individual corps are shown in Abstract XL. Excluding the 2nd Battalion the Royal Scots, which was only a few days in the Command, and corps with a small average annual strength, the highest admission rate is found to have been 804·1 per 1,000 in the 1st Battalion Bedfordshire Regiment, stationed chiefly at Verdala; the next rate was 772·7 in No. 37 Battery, Southern Division, Royal Artillery, at Upper St. Elmo, followed by 756·1 in the 2nd Battalion the Border Regiment, a short time at Verdala; the lowest rate was 427·4 in the 1st Battalion Royal Berkshire Regiment at Lower St. Elmo and Marsamuscetto, the next above being 474·3 in No. 25 Battery, Southern Division, at Fort Tigne, and 497·7 in the 2nd Battalion the Connaught Rangers, at Pembroke Camp and Gozo. The highest rate of mortality was 36·58 per 1,000 in No. 12 Battery, Southern Division, at Fort Manoel, and afterwards at Fort Tigne, followed by 24·39 in the 2nd Battalion the Border Regiment, and 20·62 in No. 32 Battery, Southern Division, at Ricasoli; the lowest death rate was *nil* in No. 6 Battery, Southern Division, at Ricasoli, and in No. 3, Battery at St. Angelo and Ricasoli, the next above being 4·57 in the 1st Battalion the Berkshire Regiment, and 6·41 in the 25th Battery, Southern Division. The highest ratio of constantly sick was 58·41 per 1,000 in the 14th Battery, Southern Division, Royal Artillery, stationed at St. James's Cavalier, followed by 55·05 in the 37th Battery, and 54·51 in the 12th Battery, Southern Division; the lowest ratio of constant inefficiency through sickness was 29·59 in the 1st Battalion Royal Berkshire Regiment, the next above being 30·64 in the 1st Battalion Royal West Kent, stationed first at Ricasoli and then at Fort Manoel, and 31·63 in the 1st Battalion the Welsh Regiment at Isola Gate and other barracks.

With regard to the effect of age on sickness and mortality, it is calculated that the admission rate of men under 20 years of age was 559·6 per 1,000, an increase of 270·3 on the corresponding rate in the previous year; the admission ratio among men between 20 and 25 years was 759·5, an increase of 28·4; that among men between 25 and 30 years 426·2, a decrease of 19·8; and that among men over 30 years 280·7, which differs only fractionally from the last year's rate. Mortality among men under 20 years of age was equal to 8·40 per 1,000, as compared with 1·20 in the preceding year; among men between 20 and 25 years of age the death rate was 8·01, an increase of 1·08 on the previous year's rate; among men between 25 and 30 years of age it was 9·19, an increase of 1·29, and among men over 30 years of age it was 8·77, an increase of 3·86.

Malta.

Taking length of service in the Command, it is found that the admission rate among men in their first year of service was 494·4 per 1,000, which is lower than the corresponding rate in the previous year by 71·3; in the second year of service the admission rate amounted to 1147·0 per 1,000, an increase of 535·3 on the last year's rate; in the third year of service the rate was 432·7, a decrease of 35·4; in the fourth year of service 473·4, a decrease of 62·5, and over that service 286·6, a decline of 283·7. Mortality in the first year of service in the Command was equal to 7·17 per 1,000, which is fractionally above the similar rate in the previous year. In the second year of service the death rate reached 14·99, an increase of 13·29; in the third year of service the rate was 9·19, an increase of 2·42; in the fourth year of service the rate was 4·42, a decline of 4·33, and over that service the rate was 5·23, a still greater decrease from the previous year's rate.

In Abstract No. III. will be found a table showing the principal statistics of sickness and mortality according to the several groups and orders of diseases.

GENERAL DISEASES.—*Diseases dependent on Morbid Poisons.—Eruptive fevers* were represented by two admissions only, one for scarlet fever and the other for cow-pox.

Enteric fever caused 60 admissions and 20 deaths, being in the ratios of 8·5 and 2·83 per 1,000 respectively. Compared with corresponding ratios in the preceding year there is an increase of 5·7 in the admission ratio and one of 1·76 in the mortality ratio, and compared with similar rates, taking the average of the previous five years, an increase of 2·1 is observed in the former, and one of ·81 in the latter. The per-centage of mortality to attack was 33·3 as compared with 39·0 in the preceding year, and 31·6, the average of five years. With regard to the age of the men attacked, 7 were under 20 years of age, 6 were in their 21st year, 11 in their 22nd year, 11 in their 23rd, 10 in their 24th, and 15 were over 24 years; as to service, 2 were in their first year, 11 in their second, 11 in their third, 13 in their fourth, 11 in their fifth, and 12 had over five years' service; and as to residence in the Malta Command, 32 had served there less than one year, 13 over one and less than two years, and 15 over two years. With regard to seasonal prevalence, 15 cases occurred in the first quarter of the year, none in the second, 24 in the third, and 21 in the fourth. 31 admissions took place at Valetta, 20 at Cottonera, 5 at Citta Vecchia, and 4 at Forrest. The medical officer in charge at Cottonera, speaking of the high rate of mortality (9 deaths), states his opinion that it is due to the fact that many of the cases returned as simple continued fever were really mild enteric cases, the great similarity of the symptoms in the early stages rendering diagnosis difficult. All the cases returned as enteric fever were of a severe type. With regard to causation the Principal Medical Officer is of opinion that 16 cases which occurred at Fort Pembroke were due to drinking polluted water from a tank, one of the filter beds belonging to which had from some cause been damaged and thus rendered inefficient. It was discovered that the water was impure and the tank was at once closed, with the result that other troops, who after this arrived in the camp for musketry, enjoyed excellent health and were entirely free from fever. Regarding the admissions from Fort Manoel, 13 and 2 deaths, and one fatal case from Fort Tigne, suspicion was, in the opinion of the Principal Medical Officer, deservedly attached to the state of the drains, which are very old and were laid down in the last century. One case occurred in a man in hospital at Citta Vecchia, who had been a patient for other complaints for some months; four men were admitted from Fort Bengemma, and shortly afterwards this patient was attacked by the disease. For the causation of the remaining 29 admissions many suggestions were put forward, but no special reason for the attacks was discovered.

Simple continued fever caused 603 admissions and 9 deaths, being in the ratios of 85·5 and 1·28 per 1,000 respectively. The admission ratio is higher than in the previous year by 1·9, but lower than the average rate for the previous five years by 33·4; the death rate is lower than in 1889 by ·26, but higher than the quinquennial average rate by ·32. The ratio constantly sick from these fevers was 6·85 per 1,000, being a decline of 2·20 from the last year's rate. The medical officer in charge at Cottonera states that the type of fever varied in intensity, many cases being mild and of short duration and

probably due to direct exposure to the sun, but several were severe, accompanied by great exhaustion, delirium, and an almost typhoid state. Relapses were frequent, and at times more severe than the original attack. The usual sequelæ, rheumatism or sciatica, occurred in most of the severe cases, and convalescence was much prolonged. *Malta.*

Dysentery caused 33 admissions, equal to a rate of 4·7 per 1,000, which is almost identical with the corresponding ratio in the previous year. Of the admissions, 22 occurred at Cottonera, 9 at Valetta, and 2 at Forrest. There was no death.

Influenza was the cause of 180 admissions, being in the ratio of 25·5 per 1,000. The disease became epidemic among the troops in the month of January; the symptoms in the great majority of cases were very mild and the complications at first unimportant, but towards the middle of the month a few more serious cases presented themselves, followed occasionally by pulmonary complications. At the end of January the epidemic was rapidly declining and early in February it ceased altogether.

The remaining admissions in the 1st sub-group of diseases were two for mumps and one fatal case of diphtheria; the latter occurred in Verdala barracks, and was a severe case from the outset.

Malarial fevers were represented by 4 admissions only, cases of ague, as compared with 10 in the preceding year.

Septic diseases caused 13 admissions, all for erysipelas, of which one terminated fatally. In the previous year there was a single admission.

Venereal Diseases.—The admissions for *primary syphilis* were 51 in number, equal to a ratio of 7·2 per 1,000, and the number of men constantly sick was 6·49, equal to ·92 per 1,000. Compared with corresponding ratios in the previous year the admission rate has declined by 5·7 and the constantly sick rate by ·57, and compared with average rates for the preceding four years the decrease in the former is equal to 7·6 and in the latter to ·47. Including the sickness for simple venereal ulcer, 191 admissions and 14·69 constantly sick, the admission ratio for primary venereal sores was equal to 34·3 per 1,000, which is in excess of that in the previous year by 1·3, and above the average rate of five years by 2·3. The ratio of constant inefficiency on this account was 3·00 per 1,000, higher than that in the previous year by ·13, and than that of the five years' average by ·41. *Secondary syphilis* was the cause of 72 admissions, being in the ratio of 10·2 per 1,000, a decrease of 2·4 from the rate in 1889, and one of 3·6 from the average rate. The ratio constantly sick was 1·16, almost identical with the rate in the previous year, and absolutely so with the quinquennial average rate. *Gonorrhœa* was the cause of 419 admissions, equal to 59·4 per 1,000, and there were 32·61 men constantly sick, equal to 4·62 per 1,000. The admission ratio was higher by 5·7, and the constantly sick rate by ·86, than the corresponding rates in the previous year, and the former was higher by 7·1, and the latter by 1·13, than the quinquennial similar average ratios. Including all forms of venereal disease, the total admission rate was 103·9 per 1,000, an increase of 4·6 on the ratio in 1889, and one of 5·8 on the five years' average rate. The total rate of constant inefficiency was 8·78 per 1,000, which is higher by ·98 than in the preceding year and by 1·54 than the average rate.

Parasitic diseases caused 7 admissions, all cases of tænia solium. *Alcoholism* was the cause of 16 admissions, equal to 2·3 per 1,000, as compared with 2·0 in the previous year. Two of the admissions were for delirium tremens.

Debility.—50 admissions are returned, being in the rate of 7·1 per 1,000, less than half the rate in the preceding year, and considerably below the average. The cases were chiefly the sequelæ of fever.

Rheumatism.—Under this head 224 admissions are returned, being in the ratio of 31·8 per 1,000, which is higher than in the preceding year by 7·8, but about the average rate. Of the cases treated, 11 were rheumatic fever, of which one case was fatal.

Tubercular Diseases.—25 admissions and 11 deaths are returned, being in the ratios of 3·6 and 1·56 per 1,000 respectively, which are higher than the corresponding rates in the previous year by 1·5 and 1·41. All but one of the admissions and all the deaths, including seven of invalids, were due to tubercle of the lungs. *Other diseases* of this group of general diseases gave 32 admis-

Malta. sions, or 4·5 per 1,000. Of the admissions no less than 31 were for non-malignant new growth, chiefly cases of papilloma. The remaining admission was for purpura.

LOCAL DISEASES.—*Diseases of the Nervous System.*—71 admissions are returned, equal to 10·0 per 1,000, an increase of 2·9 on the last year's rate and also above the average rate of five years. The admissions were principally due to some form of neuralgia, 36 cases being recorded. There were 13 cases of mental disease as compared with 11 in the previous year. One death is returned from inflammation of the brain.

Diseases of the Eye caused 55 admissions, or 7·8 per 1,000, which is a lower rate than in the previous year by 2·3, and also below the average rate. Of the admissions 32 were due to conjunctivitis and the remainder to various causes.

Diseases of other Organs of Special Senses.—The admissions numbered 80, equal to 11·3 per 1,000, being higher by 2·7 than in 1889, and above the average rate. 73 of the admissions were due to aural diseases, chiefly inflammation of the external meatus, and 7 were nasal affections.

Diseases of the Circulatory System caused 60 admissions and 3 deaths, including one of an invalid. The admission ratio, 8·5 per 1,000, differs very little from that in the preceding year, but is below the average. Of the admissions 40 were for palpitation, and 10 for valvular disease of the heart. Two deaths were due to pericarditis and one to valve disease of the heart.

Diseases of the Respiratory System.—165 admissions are returned, but no death. The admission rate, 23·4 per 1,000, is above the last year's rate by 3·1, but about the average rate. Four-fifths of the admissions were due to bronchial affections, and there were among the remainder 13 cases of pneumonia and 9 of pleurisy.

Diseases of the Digestive System were the cause of 595 admissions and 7 deaths, being in the ratios of 84·3 and ·99 per 1,000 respectively, which are higher by 3·1 and ·22 than the corresponding rates in the previous year, but below average rates. The principal causes of admission were affections of the mouth and throat 160 cases, dyspepsia 105, diarrhœa 96, and hepatic affections 110, including 46 cases of jaundice. The deaths were hepatic abscess 3, enteritis 2, and intestinal obstruction 2.

Diseases of the Lymphatic and Glandular System.—38 cases are returned, equal to 5·4 per 1,000, which differs but little from the last year's rate.

Diseases of the Urinary System gave an admission rate of 3·4 per 1,000, an increase of 1·1. Out of 24 admissions 15 were for incontinence of urine.

Diseases of the Generative System.—The admission ratio was 42·4 per 1,000, an increase of 7·6 on the last year's rate. The admissions numbered 299, of which 191 were cases of simple venereal ulcer. Of the remaining admissions the most frequent cause was orchitis.

Diseases of the Organs of Locomotion caused 53 admissions, or 7·5 per 1,000, an increase of 2·1 on the last year's rate, and also above the average rate. Synovitis was the chief cause of admission.

Diseases of the Connective Tissue gave an admission ratio of 20·1 per 1,000, dependent on 142 cases; the ratio is lower than in the preceding year, and a good deal below the average rate.

Diseases of the Skin.—220 admissions are returned, being in the ratio of 31·2 per 1,000, which is lower than the previous year's rate by 5·2, and below the average rate. The principal causes of admission were itch, ulcers, boils, eczema, and psoriasis.

Under the head of *poisons* one admission is returned, a case of wound by poisonous fish.

Injuries caused an admission rate of 76·4 per 1,000, which is lower than in the preceding year by 2·6. There were 4 admissions for general injury, two being very severe cases of heat apoplexy, which proved fatal, and two being cases of multiple injury from falls, both fatal. There were also 5 deaths from drowning, accidental (two were bathing and three boating accidents), and 1 returned as probably accidental. Local injuries caused 535 admissions and 4 deaths. The admissions were chiefly contusions, sprains, wounds, &c., and among the remainder were 44 fractures and 5 dislocations. The causes of death were:—gunshot wound of skull, a man having been accidentally shot by a

comrade in the barrack room; fracture of spine with compression of cord, the result of a fall over a parapet while drunk; wound of neck, self-inflicted while in a state of temporary insanity; and concussion of the brain the result of an accidental fall. *Malta.*

Invaliding.—The number of men invalided to England was 160, being in the ratio of 22·68 per 1,000, which differs only by a fractional decrease from the corresponding rate in the previous year, and by a fractional increase from the decennial average rate. Excluding corps with small average strength, the highest invaliding rate was 41·57 per 1,000 in the 2nd Battalion Connaught Rangers, stationed at Pembroke Camp, next 30·49 in the 12 Battery, Southern Division, Royal Artillery, at Fort Manoel, and 27·40 in the 6th Battery at Ricasoli. The lowest rate was 11·81 in the detachment 2nd Battalion Essex Regiment at St. Angelo, &c., the next above being 13·04 in the 1st Battalion the Welsh Regiment at Isola Gate, and 16·26 in the 2nd Battalion the Border Regiment at Verdala. With regard to the age of the men invalided, 11, or 18·48 per 1,000, were under 20 years of age, 92, or 26·33 per 1,000, were between 20 and 25 years of age, 46, or 20·15 per 1,000, were between 25 and 30 years of age, and 11 men, or 16·08 per 1,000, were over that age. Compared with corresponding results in the preceding year an increase is observed in the invaliding rate of men under 20 years of age, but there is a decrease in that of men at other ages. With regard to length of service in the Command, the number of men in their first year of service in the Command was 55, equal to 19·72 per 1,000, of men invalided in their second year 49, or 34·97 per 1,000, of men in their third year 19, or 15·87 per 1,000, of men in their fourth year 12, or 13·27 per 1,000, and of men over that service 25, or 32·72 per 1,000. Compared with corresponding ratios in the preceding year there is an increase in the invaliding rates of men in their first and second years' service in the Command, but a decrease in the remainder. The principal causes of invaliding were continued fevers 4·68 per 1,000, tubercular diseases 2·12, diseases of the nervous system 1·85, diseases of the circulatory system 1·56, diseases of the respiratory system 1·42, and rheumatism and diseases of the urinary system 1·28 per 1,000 respectively.

The number of men finally discharged by invaliding was 95, equal to a ratio of 13·46 per 1,000, which is higher than the last year's rate by 4·25, and above the average rate for 10 years by 2·09. The disabilities necessitating final discharge were chiefly diseases of the circulatory system 1·56 per 1,000, aural diseases 1·42 per 1,000, tubercular diseases 1·42 per 1,000, and debility 1·28 per 1,000.

Officers.—The average strength was 194, and there were 160 attacks of illness and 2 deaths, and 9 officers were invalided to England. The ratio of prevalence of sickness was 824·7, which is higher than the corresponding ratio in the previous year by 290·3. The rate of mortality was 10·31 per 1,000; in the preceding year there was no death. The principal causes of sickness were fevers, 51 cases, including 2 of enteric fever, influenza 20 cases, diseases of the digestive system 27 cases, and injuries 22 cases. Of the deaths one is returned as due to influenza and the other to simple continued fever. The causes of invaliding were simple continued fever 6 cases, and influenza, enteric fever, and sprain one case respectively.

Women.—The average strength is shown as 334, and the number of cases of sickness as 257, equal to a ratio of 769·4 per 1,000, an increase of 18·6 on the previous year's rate. There were 8 deaths, or 23·95 per 1,000, an increase of 10·11. The principal causes of sickness were simple continued fever 64 cases, debility 50, diseases of the digestive system 36, respiratory diseases 25, and disorders of the generative system 19 cases. The deaths were simple continued fever 4 cases, and tubercle of the lung, empyema, peritonitis, and childbirth one case respectively.

Children.—The average strength was 569, and there were 328 cases of sickness and 37 deaths, being in the ratios of 576·4 and 65·03 per 1,000. Compared with corresponding ratios in the previous year a decrease of 482·0 is observed in the sick rate and one of 33·85 in the death rate. The most frequent causes of illness were diarrhœa 93 cases, bronchitis 56, fevers 39 (including one case of enteric fever), and debility 27 cases. The deaths were diarrhœa 11, debility 6, bronchitis 5, convulsions 3, teething 3, gastritis 2,

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enteritis 2, and simple continued fever, dysentery, meningitis, epilepsy, and burn 1 respectively.

Sanitary Conditions.—The Principal Medical Officer, Surgeon-General D. A. Campbell Fraser, reports that the health of the troops generally was fair considering the epidemic of influenza, and the increase in the amount of enteric fever.

He calls attention to the remarks he made in the preceding year regarding the age that young soldiers should be sent to serve in Malta, and repeats that "on sanitary grounds no man under 19 years of age should be sent from "England to any Mediterranean station for duty."

The considerable increase in the strength of the garrison necessitated the occupation of every available quarter; the Sanitarium, Citta Vecchia, was also early in the winter transferred as a temporary measure for the use of the troops, and by this means any dangerous overcrowding was avoided. During the summer months one third of the troops slept in tents, which arrangement was, as heretofore, attended with excellent sanitary results. The whole of the wooden huts sent out in the previous year were taken into use and were found to be a success; they are well liked by the men, and from a sanitary point of view compare favourably with most of the barrack buildings. The sanitary condition generally of the various barracks, many of which are very old casemated buildings, constructed mainly with the object of defence, hygienic measures taking a very secondary place only, was satisfactory. Cleanliness was maintained throughout, and defects of construction affecting ventilation, which could be dealt with, were, as far as possible, removed, or corrected.

The water supply generally was satisfactory. At Pembroke camp there was but one tap supplying aqueduct water only, the supply being generally aqueduct and tank water mixed; but it is hoped that the former will ere long be supplied in pipes all over the camp. At Forts Pembroke and Ta Sile the tank water was condemned during the year, and aqueduct water for drinking purposes was supplied instead for the use of the troops.

Ventilation is attended to, and regarding the huts it is stated that their ventilation is very good. Warming is not quite satisfactory as, except in a very few instances, there are no means of warming the barrack-rooms, the roofs and floors of which are of stone, and are in consequence often cold in the winter months. The gas supplied for lighting was found to be not always of good quality, which gave rise to frequent complaints, and in consequence in certain barracks oil lamps were sanctioned for use.

With regard to the hospitals, it is stated that the sanitary arrangements were generally satisfactory and the accommodation sufficient. The Valetta station hospital is very old, and is not, therefore, constructed to meet modern sanitary requirements, and its situation is also, on various grounds, objectionable. It has been recommended that the building should be given up as a hospital, and that a new one should be built in the neighbourhood of Floriana; but though this change is very desirable it is not thought likely that it will be carried out in the early future. Accommodation for sick officers is thought to be insufficient, and the provision of two extra rooms at Cottonera station hospital has been recommended.

The civil authorities have, it is said, done their share towards improving the sanitary state of the towns in which many of the barrack buildings are situated. House ventilation has received attention, and the construction of two additional ventilators, each over seventy feet high, has been sanctioned in connection with the Valetta and Cottonera main sewers.

Among the more important of the military sanitary improvements carried out during the year, may be mentioned the following:—At Fort Chambray, Gozo, improvement of the sanitary condition of barracks, ablution rooms, &c. generally. At Verdala barracks improvement of the ventilation of eight barrack rooms. At Fort Pembroke provision of a new ablution room, and conversion of old one into recreation room. At Floriana improvement of ventilation of barracks and latrines. At Fort St. Angelo provision of additional latrine accommodation. At Pembroke camp the provision of fresh water laid on for ablution purposes, and at Ricasoli renewal of salt-water pipes and stop-cocks for latrines.

Royal Malta Artillery.

The average strength of the Royal Malta Artillery was 365 non-commissioned officers and men, and the chief statistics of their sickness and mortality are shown in the following table :— *Malta.*

1890. Average Strength.	Admissions.	Deaths			Invalids		Average daily Sick.	Ratio per 1,000 of Strength.				
		In the Command.	Of Invalids.	Total.	Sent Home.	Finally Discharged.		Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.
365	217	1	—	1	—	6	9·37	594·5	2·74	—	16·44	25·67

Compared with corresponding ratios in the previous year a decrease of 41·1 per 1,000, is observed in the admission ratio and one of 2·74 in the death rate, but there is an increase of 1·37 in the rate of constantly sick; and compared with similar average ratios for the previous ten years the admission rate has declined by 62·8, and the death rate by 1·83, but the constantly sick rate has increased by 1·17.

The average sick time to each soldier was 9·37 days, which is longer than in the preceding year by half a day, and also longer than the corresponding period for the previous ten years by nearly the same. The average duration of each case of sickness was 15·76 days, which is longer than in the previous year by 1·81 days, and than the decennial average period by 2·16 days.

General Diseases.—*Diseases dependent on Morbid Poisons.*—There were no admissions for eruptive or enteric fevers, but simple continued fevers caused 15 admissions, or 41·1 per 1,000; the cases were generally mild, and do not call for remark. The remaining 20 admissions in this sub-group, equal to a rate of 54·8 per 1,000, were all cases of influenza, which occurred in the month of January when the disease was epidemic in the island. It is remarked that the number of admissions as compared with the strength of the regiment is not great. The cases were generally mild, and only one was followed by serious complications. Malarial fevers were represented by 2 cases of ague, which occurred in men who had contracted the disease away from the station. There was one admission under septic disease, a case of erysipelas supervening on a wound of the forehead, but the man did well.

29 admissions are shown under the head of venereal disease, the ratio being 79·5 per 1,000, more than double the corresponding rate in the previous year. The increase is principally in gonorrhœa, 21 cases of which occurred against 10 in 1889. There were also 4 cases of primary and 4 of secondary syphilis.

The remaining admissions for general diseases were 5 for debility, 6 for rheumatism, including a case of rheumatic fever and one of papilloma.

Local Diseases.—Nervous affections caused 5 admissions, three for neuralgia, one for convulsions, and one for epilepsy. Ophthalmic diseases show 9 cases, chiefly conjunctivitis. One admission is shown for inflammation of external meatus and one for epistaxis. Diseases of the circulatory system were represented by a single case of endocarditis, but this terminated fatally. Diseases of the respiratory system caused 28 admissions, 24 being bronchitic affections, 2 pneumonia, and 2 pleurisy. The admissions for diseases of the digestive system numbered 26, of which affections of the mouth and throat furnished 14 cases, the remainder being diarrhœa 5, dyspepsia 4, jaundice 2, and colic 1 case. Diseases of organs of locomotion show one admission, a case of caries. Diseases of the connective tissue showed 2 cases, and diseases of the skin 22 admissions, boils being the prevailing cause.

Injuries caused 42 admissions as compared with 60 in the previous year; among the cases treated were 4 of fracture.

Malta.

Invaliding.—6 men were discharged the service by invaliding, equal to 16·44 per 1,000, which is identically the same ratio as in the previous year, though fractionally below the average rate for the preceding ten years. The causes of invaliding were debility 2 cases, and tubercle of the lung, epilepsy, dyspepsia, and fracture one case respectively.

Officers.—The average strength was 20, and there were 22 cases of sickness. Influenza caused 9 cases of illness, and beyond this digestive disorders caused most sickness.

Women and Children.—The average strength of women was 40, and there were 19 cases of sickness and one death. Influenza caused 2 cases, simple continued fever 6, and bronchitis 2, one of which was fatal. The average strength of children was 121, and the cases of sickness 62, among which were 22 cases of simple continued fever, 9 of bronchitis, 7 of teething, and 7 of diarrhœa. There were 5 deaths, two from teething and one from simple continued fever, bronchitis, and diarrhœa respectively.

Sanitary Conditions.—The medical officer in charge, Surgeon-Major L. Manché, M.D., reports that the sanitary condition of the barracks was carefully attended to during the year. The ventilation was good, and every precaution was taken that there should be no overcrowding. Cleanliness was carefully attended to. The rooms were sufficiently lit with gas and were comfortably warm. The ablution and bath rooms were in good order, and were largely used by the men.

III.—Cyprus.

Cyprus.

The force serving in Cyprus during the year was composed of the headquarters, and four companies of the 2nd Battalion Essex Regiment, and a few men of the Garrison Staff and Departments.

The principal statistics of sickness and mortality among the troops are shown in the following table :—

1890. Average Strength.	Admissions.	Deaths			Invalids		Average daily Sick.	Ratio per 1,000 of Strength.				
		In the Command.	Of Invalids.	Total.	Sent Home.	Finally Discharged.		Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.
508	303	3	—	3	5	1	17·98	596·4	5·90	9·84	1·97	35·39

Compared with corresponding results in the previous year a decrease of 134·7 per 1,000 has occurred in the admission ratio, and one of 21·14 in the rate of constantly sick, but there is an increase of 4·56 in the death rate. Compared with similar average ratios for the preceding ten years, a decrease is observed in all, the admission rate by 277·3, the death rate by 2·76, and the constantly sick rate by 9·08. The average sick time to each soldier was 12·92 days, which is shorter than the corresponding period in the preceding year by 7·71 days, and than the average period for the previous ten years by 3·41 days. The average duration of each case of sickness was 21·66 days, which is less than in the previous year by 6·56 days, but longer than the decennial average period by 3·08 days.

The stations occupied during the year were Polymedia, Limassol, Nicosia, and Troodos; the two first from the 1st January until 5th June, and again from 1st October until 31st December. During the interval the whole of the troops were stationed at Troodos, in the mountains. Nicosia was occupied by a detachment from 1st January to 6th June, and again from 13th to 31st December.

In Abstract XL. is a table showing the sickness and mortality from corps in the Command; it will be seen the ratios of sickness were greater in the 2nd Battalion Essex Regiment than in the Garrison Staff and Departments; but with regard to mortality these positions are reversed. *Cyprus.*

With regard to the age of the troops it is calculated that the admission rate of soldiers under 20 years of age was 1062·5 per 1,000, and that of men between 20 and 25 years of age was 1574·2 per 1,000, which are considerably higher than the corresponding rates in the previous year. The ratio of sickness among men between 25 and 30 years shows a decline, and that among men over 30 years has increased. Of the three deaths, one man was 24 years of age and two were over 30 years of age.

Taking length of service in the Command, the admission ratio of men in their first year of service was 655·6 per 1,000, which is higher than the similar rate in the previous year, the ratio among men in their second year was 409·8 per 1,000, considerably below the last year's rate, when the average annual strength of men at this service was very low. Of the deaths two occurred among men in their first year's service in the Command, and the third man had been over three years in the Command.

The admissions, deaths, invaliding, &c., according to the different groups and orders of diseases will be found in Abstract IV.

General Diseases.—*Diseases dependent on Morbid Poisons.*—There was no sickness from *eruptive fevers*, and for *enteric fever* there were 2 admissions and 1 death, as compared with 3 admissions and no deaths in the previous year. The admission ratio, 3·9 per 1,000, scarcely differs from that in 1889, but is considerably below the average rate for the preceding five years. Both the cases occurred in the Essex Regiment at Polymedia camp; the men were both young soldiers who had but recently arrived direct from England. The origin of these cases is unknown, but it is said that enteric fever is never absent from among the inhabitants of the island. *Simple continued fever* caused 28 admissions, equal to a ratio of 55·1 per 1,000, which is below the average rate for the previous five years, but above the rate in the preceding year by 29·5. The fever was of a mild type. 13 cases occurred at Polymedia. 13 at Troodos, and 2 at Nicosia. The cases at the first-named station occurred mostly among a draft of men recently arrived from England.

Influenza caused 29 admissions, equal to 57·1 per 1,000. These cases occurred during the months of January and February, and appear to have been part of the general epidemic which spread throughout Europe about this period. The disease visited the island in a mild form, and the cases were generally only a short time under treatment. It is said that it had no special characteristics which would distinguish it from the epidemic as it manifested itself in other countries.

Malarial Fevers caused 14 admissions, equal to a ratio of 27·6 per 1,000, which is lower than the corresponding rate in the previous year, and considerably below the quinquennial average rate. All the cases were ague; the disease was in most instances contracted in the island, did not prevail specially during any particular period or season, and was not identified with any station in particular.

Venereal Diseases.—Primary syphilis caused 21 admissions, being in the ratio of 41·3 per 1,000, which is less than a third of the corresponding rate in the previous year. Including the sickness from simple venereal ulcer, which gave 15 admissions and 1·02 constantly sick, the admission ratio for primary venereal sores was 70·8 per 1,000, which is lower than the corresponding rate in the previous year by 153·7, and than the average rate for five years by 68·3. *Secondary syphilis* caused 17 admissions, equal to a ratio of 33·5 per 1,000, which is lower than that in 1889 by 17·6, and than the average rate by 16·2. *Gonorrhœa*, with 38 admissions, gave a ratio of 74·8 per 1,000, which has declined by 20·6 from the ratio in the previous year, and by 16·8 from the average rate. Including all forms of venereal diseases, the total admission rate amounted to 179·1 per 1,000, as compared with 371·0 in the previous year, and 280·4 the quinquennial average rate. The total amount of constant inefficiency from these diseases was in the ratio of 14·56 per 1,000, which is less than in the preceding year by 20·39, and below the average rate by 5·93.

Cyprus.

From this it will be seen that there was a marked reduction in the prevalence of venereal diseases from the preceding year, but it must be remembered that that year seems to have been rather an exceptional one in this respect.

Alcoholism caused 3 admission, one of which was a case of delirium tremens, which proved fatal.

Debility was the cause of 6 admissions, being in the ratio of 11·8 per 1,000 as compared with 4·0 in the previous year.

Rheumatism.—9 admissions are recorded, or 17·7 per 1,000, which is above the last year's rate by 2·9, though below the average of five years. 3 of the cases were rheumatic fever, the others were of but little importance.

Local Diseases.—*Diseases of the Nervous System.*—A single admission is returned, which was a case of mental disease. *Diseases of the Eye* also show only one admission, but *diseases of other organs of special senses* gave 7 admissions, or 13·8 per 1,000, an increase of 12·5 on the last year's rate, but below the average. All the admissions were for aural affections, and there was one case of abscess, which proved fatal. There was no admission for *disease of the circulatory system*, as was the case also in the preceding two years, and there were only 3 admissions for *respiratory* disease, viz., one case of pneumonia and two of pleurisy. The admissions for *diseases of the digestive system* caused 30 admissions, giving a ratio of 59·0 per 1,000, which is lower than in the previous year, and considerably below the average ratio of the preceding five years. Diarrhœa caused 7 admissions, and dyspepsia 6, but the principal admissions worthy of note were those for hepatic disease, including 4 of hepatitis 2 of liver abscess, and one of cirrhosis. *Diseases of the lymphatic and glandular system* show 10 admissions, or 19·7 per 1,000, much the same as the rate in the previous year, due chiefly to affections of the inguinal glands. *Diseases of the urinary system* gave only 2 admissions, but *diseases of the generative system* caused 21 admissions, principally simple venereal ulcer, the admission rate, 41·3 per 1,000, is less than half that in the previous year. *Diseases of the organs of locomotion* caused 3 admissions, all for synovitis, and *diseases of the connective tissue* gave 4 admissions. There were 25 admissions for *skin diseases*, equal to 49·2 per 1,000, which is a higher rate than in the previous year by 22·3. The cases were of ordinary character.

Injuries.—29 admissions are returned, equal to a ratio of 57·1 per 1,000, which is less than that in the preceding year by 11·5, and below the average. The greater number of cases were accidental wounds, though none of a serious character.

Invaliding.—The number of men invalided home during the year was 5, being in the ratio of 9·84 per 1,000, which differs only fractionally from the corresponding rate in the preceding year, but is below the average rate of ten years by 4·65. Of the 5 invalids, 4 belonged to the Essex Regiment. With regard to age, one was between 20 and 25 years, one between 25 and 30 years, and three over that age. As to service in the Command, the whole five were in their second year. The causes of invaliding were debility two cases, and dementia, deafness, and hepatic abscess one case respectively. There was only one man finally discharged the service by invaliding, a case of deafness.

Officers.—The average strength was 23, and there were only two cases of illness, both due to influenza. The sick rate, 86·9 per 1,000, consequently shows a great decline.

Women.—The average strength was 27, and there were 18 admissions, and one death. The admission rate, 666·7 per 1,000, exceeds that in the preceding year by 123·9. Fevers were the principal causes of admission. The fatal case is returned under the head of ascites.

Children.—There were 27 admissions in an average strength of 59, being in the ratio of 457·6 per 1,000. Among the cases were 9 of simple continued fever, one of them fatal, 5 of ague, 5 of bronchitis, 1 of enteric fever, and 1 fatal of infantile convulsions.

Sanitary Conditions. — The Senior Medical Officer, Brigade Surgeon W. E. Riordan, remarks in his annual report that the health of the troops was very satisfactory, and there was a marked absence of preventable disease. The general sanitary condition of the different stations is reported to have been satisfactory, the dry-earth system of conservancy is employed at all stations in occupation by the troops, and is effectually carried out. The water supply

generally is of good quality and sufficient, the only place where any defect in the quality was reported is the depôt at Limassol, this was due to the water in the aqueduct from which the barracks are supplied being liable during wet weather to accidental contamination.

At Polymedia the camp is in a satisfactory sanitary condition. No changes or improvements worthy of note took place during the year beyond the removal of the stone walls round the huts originally erected with the idea of making the latter warm in the cold weather, but it was found that they prevented free circulation of air under the buildings, and caused damp during the rains.

At Nicosia everything is reported to have been in a very satisfactory sanitary condition. An epidemic of measles occurred in the town, which was in consequence put out of bounds, and there was no case among the troops or their families.

Troodos proved a very healthy station, and the sanitary state of the camp is in all respects satisfactory. The water supply is led into camp by pipes which receive it from a spring in an adjacent valley; the water is exceedingly good, though rather hard, and it is sufficient for all purposes.

At the south camp, Troodos, a shower bath was put up for the use of the regiment. There is no plunge bath here or at Polymedia, but the ablution rooms are supplied with baths, and a constant supply of water is laid on.

No alteration was made in the scale of diets; the meat is very good, but during the winter months at Polymedia the supply of fresh vegetables was scarce.

IV.—ON THE HEALTH OF THE TROOPS SERVING IN THE DOMINION OF CANADA.

Sickness and Mortality.

Canada.

The average strength of the garrison at Halifax, the only station in Canada occupied by Imperial troops, was 1,381. The force was composed as follows:—Three batteries of Artillery, the 1st, 10th, and 20th Batteries, Western Division, which were relieved in the early part of the year by the 3rd, 17th, and 24th Batteries; the 18th and 40th Companies Royal Engineers; the 2nd Battalion West Riding Regiment; detachments Departmental Corps and Garrison Staff.

In the subjoined table are given the most important of the health statistics of the troops:—

1880. Average Strength.	Admissions.	Deaths			Invalids		Average daily Sick.	Ratio per 1,000 of Strength.				
		In the Command.	Of Invalids.	Total.	Sent Home.	Finally Discharged.		Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.
1,381	600	7	—	7	21	17	34·88	434·4	5·07	15·20	12·31	25·25

Compared with the corresponding ratios in the previous year it is observed that a decline of 41·7 has occurred in the admission ratio, and one of 3·30 in the rate of constantly sick, but there is an increase of 2·26 in the death rate, and in comparison with similar average ratios for the preceding ten years a decrease is observed in all these ratios, being 247·5 in the case of admission, ·31 in that of death, and 12·61 in that of constant inefficiency through sickness. The average sick time to each soldier was 9·22 days, which is less than in the previous year by 1·20 days, and less than the corresponding period for the average of the preceding ten years by 4·60 days; the average duration of each case of sickness was 21·22 days, which is less than in the preceding year by ·67 of a day, but longer than the average decennial period by ·95 of a day.

The principal statistics of separate corps are given in Abstract XL., where it will be noticed that the highest annual admission rate in any corps was 958·9 per 1,000 in No. 17 Battery, Western Division, Royal Artillery, the next being 592·1 in No. 3 Battery; the lowest annual admission rate was 191·5 in the 40th Company, Royal Engineers, the next above being 218·7 in No. 20 Battery, Western Division. The highest ratio constantly sick was also in No. 17 Battery, and was 50·54, the next 28·68 was in No. 3 Battery, and also in the 2nd Battalion West Riding Regiment; the lowest rates were 7·23 and 8·12 in the 40th Company, Royal Engineers, and the 20th Battery, Western Division, Royal Artillery. Of the deaths, three occurred in the infantry regiment, two in No. 10 Battery, Western Division, Royal Artillery, and one in each of the Engineer companies. The distribution of the troops was, the infantry regiment in Wellington Barracks with a detachment at Glacis Barracks, the artillery in the Citadel, and the Engineers in the South Barracks.

With regard to the effect of age on sickness and mortality, it is found that the admission rate among men under 20 years of age was 878·9 per 1,000, that among men between 20 and 25 years of age 463·5, that among men between 25 and 30 years 409·1, and that among men over 30 years of age 207·1. In the previous year also the admission rate was highest among men under 20 years of age, and declined with each further period of age. Of the seven deaths, three, or 3·42 per 1,000, were among men between 20 and 25 years of age, one, or 3·03 per 1,000, was that of a man between 25 and 30 years, and three, or 21·43, were among men over 30 years of age. As to the effect of service in the Command the admission ratio among men in their first year was 554·3 per 1,000, among men in their second year 502·7, among men in their third year 383·1, and among men over three years 57·8. In the previous year also the admission rate was highest among men in their first year of service in the Command and decreased with each succeeding year. Of the deaths, five, or 8·88 per 1,000, occurred among men in their second year of service in the Command, and two, or 6·78 per 1,000, in the third year. *Canada.*

The sickness, mortality, and invaliding according to the different groups and orders of diseases are shown in Abstract V.

GENERAL DISEASES.—*Diseases dependent on Morbid Poisons.*—No admission is returned under the head of *eruptive fevers*, but 5 cases of *enteric fever*, one fatal, are recorded, being in the ratio of 3·6 per 1,000, as compared with *nil* in the previous year, and an average rate for the preceding five years of 1·5. Simple continued fever caused 7 admissions, all of a mild nature. An epidemic of influenza appeared in the early part of the year causing 28 admissions, for the most part mild, but some occurring in men of weak physique proved stubborn and intractable.

Septic Diseases.—5 admissions are returned, all of which terminated favourably.

Venereal Diseases.—43 admissions are shown for *primary syphilis*, equal to a ratio of 31·1 per 1,000, which is an advance of 3·7 on the rate for the preceding year, and above the average rate for the previous four years. Including the sickness from simple venereal ulcer, 6 cases, the admission ratio for primary venereal ulcers was 35·5 per 1,000, which is higher than in the preceding year by 1·1, but lower than the average rate for the previous five years by 10·2. *Secondary syphilis* also caused 43 admissions, or 31·1 per 1,000, which is above the rate in the previous year by 6·5, though below the quinquennial average rate by 1·5. *Gonorrhœa* gave an admission rate of 41·3 per 1,000, dependent on 57 cases; in this case a considerable decline is observed both as regards the previous year and the average of five years, being in the former as much as 45·2, and in the latter 42·0. Including all forms of venereal disease, the total admission rate was 107·9 per 1,000, which is lower than that of the preceding year by 37·6, and than the average rate of five years by 53·7. The ratio constantly sick from these diseases was 6·59 per 1,000, a decline of 3·82 from the last year's rate, and of 4·24 from the quinquennial average rates.

Alcoholism caused 3 admissions, as compared with 6 in the preceding year, and there were 7 cases returned as *debility* as compared with 4.

Rheumatism.—The admissions were 21 in number, equal to a ratio of 15·2 per 1,000, which is below the previous year's rate by 8·7, and considerably below the average rate of five years. With regard to this reduction in a disease so prevalent at the station, the Principal Medical Officer, Deputy Surgeon-General E. G. McDowell, C.B., remarks "that it cannot be ascribed to climatic condi-"tions, as the weather was such rather to favour than check the disease." *Tubercular disease* caused 3 admissions, all cases of lung affection. Of 5 admissions for *other diseases* three were cases of scrofula and two of non-malignant growth.

LOCAL DISEASES.—*Diseases of the Nervous System.*—Six admissions and one death are recorded. The admission ratio, 4·3 per 1,000, is lower than in the previous year by 1·3, and a good deal below the average of five years. The admissions were two for epilepsy, two for neuralgia, one for hemiplegia, and one for sclerosis of the spinal cord. There was one death from apoplexy, out of hospital.

Canada.

Diseases of the eye caused 11 admissions, equal to 8·0 per 1,000, almost the same as the rate in the previous year.

Diseases of the Circulatory System.—The admissions numbered 18, or 13·0 per 1,000, which is above the rate in the preceding year by 3·9, and above the average rate. Out of the total number of admissions seven were for valvular heart disease.

Diseases of the Respiratory System.—There were 49 admissions returned, being in the ratio of 35·5 per 1,000, which, though a good deal below the quinquennial average rate, is above the last year's ratio by 1·7. Among the cases treated were 18 of bronchial affections, 19 of pneumonia, and 6 of pleurisy. Two deaths occurrred, both from pneumonia.

Diseases of the Digestive System caused 83 admissions and one death. The admission rate, 60·1 per 1,000, shows an increase of 17·9 on the previous year's rate, but is below the average rate. More than half the admissions were due to follicular tonsillitis, and among the remainder were 11 for dyspepsia and three for hepatic affections. The death was due to enteritis.

Diseases of the Lymphatic and Glandular System caused 18 admissions, or 13·0 per 1,000, being rather less frequent than in the previous year, but about the average rate.

Diseases of the Urinary System caused only 3 admissions, as compared with 4 in the preceding year.

Diseases of the Generative System gave a ratio of 21·0 per 1,000, dependent on 29 admissions. The ratio is a good deal below the average rate and that of the previous year.

Diseases of the Organs of Locomotion.—11 admissions are returned, equal to 8·0 per 1,000, a decline of 3·3 from the last year's rate. Most of the admissions were for synovitis.

Diseases of the Connective Tissue gave 29 admissions or 21·0 per 1,000, a slight increase on the last year's rate, but about the average.

Diseases of the Skin caused 42 admissions, equal to 30·0 per 1,000, an increase of 5·1 on the rate of the previous year, though below the average rate. Scabies, boils, and eczema were the principal ailments.

Injuries.—There were 72 admissions, being in the rate of 52·1 per 1,000, which is lower by 7·7 than the corresponding rate in the previous year. Three fourths of the admissions were for wounds, sprains, and contusions, and among the remainder were 5 cases of fracture, one of concussion of the brain, and one of dislocation. Two deaths occurred, one from drowning, and one from asphyxia from plugging of air passages while in a state of intoxication.

Invaliding.—The number of men invalided home during the year was 21, being in the ratio of 15·20 per 1,000, which is lower than the corresponding rate in the previous year by 5·19, and than the average rate for the preceding ten years by 9·21. With regard to the age of the men invalided, one was under 20 years, 15, or 17·08 per 1,000, were between 20 and 25 years of age, 4, or 12·12 per 1,000, were between 25 and 30 years, and one man was over 30 years. 7 of the men, or 20·00 per 1,000, were in their first year of service in the Command, 10, or 17·62 per 1,000, in their second year, and 4, or 13·56 per 1,000, in their third year. The principal causes of invaliding were affections of the circulatory system 5 cases, debility 3, and respiratory diseases 3 cases.

The number of men finally discharged was 17, being in the ratio of 12·31 per 1,000, which is lower than the last year's rate by 6·67, and than the decennial average rate by 8·40. The principal disabilities necessitating discharge were diseases of the respiratory system 4 cases, debility 3, and tubercular disease, nervous affections, and diseases of organs of locomotion 2 cases each.

Officers.—The average strength was 66, and there were 24 cases of sickness. The ratio of prevalence of sickness was 363·6 per 1,000, a decline of 99·1 from the previous year's rate. The principal causes of sickness were influenza, respiratory affections, tonsillitis, and injuries.

Women.—The average strength was 132, and there were 41 admissions, equal to 310·6 per 1,000, as compared with 319·7 in 1889. Influenza, bronchitis, and tonsillitis were the chief causes of admission.

Children.—The average strength was 242, the number of admissions 127, and of deaths 9. The admission rate, therefore, was 524·8 and the death rate 37·19 per 1,000, as compared with 344·8 and 8·62 respectively in the previous year. Among the cases treated were 40 of measles, 15 of bronchitis, 14 of diarrhœa, and 5 of diphtheria. The deaths were 3 from diphtheria, 2 from convulsions, and one from remittent fever, tonsillitis, diarrhœa, and debility respectively.

Sanitary Conditions.—The Principal Medical Officer reports that, except during the prevalence of influenza in the early portion of the year, the health of the troops was very satisfactory, and in contrast with that of the civil population was exceptionally good.

The sanitary condition of the barracks appears to have been generally good and carefully supervised. The water supply, from a chain of lakes some six miles distant, is sufficient. The conservancy arrangements are said to have been in satisfactory operation; the dry-earth system is in use, except at Wellington barracks where the latrines are regularly flushed. The lighting of the barracks by kerosine oil is objectionable, and the provision of gas, as in the canteen and recreation rooms, is recommended.

Modern cooking ranges were substituted for those of the old pattern during the year, thus affording scope for greater variety in cooking than had been possible hitherto.

The accommodation in the station hospital was ample for requirements, and ventilation and lighting were satisfactory, but with regard to warming the Principal Medical Officer again strongly urges the provision of hot-water or steam pipes to heat the building, and points out that it is impossible to heat a large building in such a climate by means of open fireplaces or stoves only, and that at present when the outside temperature falls very low, fluids may be frozen inside the hospital.

Among the chief sanitary improvements during the year were:—at the Citadel improvements in drainage as regards traps and ventilation; two casemates were treated with Morris' process on walls, rendering them dry and healthy; at the Glacis barracks, in Nos. 1 and 2 blocks, the foul drainage was cut off by disconnecting pits; at the officers' quarters, Wellington barracks, improvements to drainage and waterclosets; and at the adult school ventilation and lighting improved.

With regard to climate it is said that the first quarter of the year was extremely variable, mild weather frequently and suddenly alternating with severe cold; the snowfall was comparatively small. The unsettled condition lasted well into the spring, and was followed by a summer which was hotter than that of many years past. In September there was heavy rainfall, and at the beginning of December there was a cold snap, which lowered the temperature to 6° below zero. The mean temperature for the 12 months was 44·5 Fah.

V.—ON THE HEALTH OF THE TROOPS SERVING IN BERMUDA.

Sickness and Mortality.

Bermuda.

The average strength of warrant officers, non-commissioned officers and men was 1,546, an increase of 226 on that in the previous year. The force comprised the 3rd and 24th Batteries, Western Division, Royal Artillery, from 1st January to 14th April, when they left for Halifax, the 10th Battery, Western Division, from 18th February to 19th March, landed en route from Halifax to the West Indies, the 1st and 20th Batteries, Western Division, from 24th April to end of the year, having arrived from Halifax in relief of the 3rd and 24th Batteries above mentioned; the 36th Company Royal Engineers, from 10th March to 31st December, from England, in relief of the 1st Company, and the 27th Company throughout the year; the 2nd Battalion Grenadier Guards arrived from England on 5th August, the 1st Battalion Leicestershire Regiment, and detachments Army Service Corps, Medical Staff Corps, and Ordnance Store Corps, and Garrison Staff throughout the year.

In the following table are the principal statistics of sickness and mortality among the troops during the year :—

1890. Average Strength.	Admissions.	Deaths			Invalids		Average daily Sick.	Ratio per 1,000 of Strength.				
		In the Command.	Of Invalids.	Total.	Sent Home.	Finally Discharged.		Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.
1,546	988	18	3	21	21	18	44·65	639·0	13·58	13·58	11·64	28·8

Compared with corresponding ratios in the preceding year an increase of 234·5 per 1,000 is observed in the admission rate, one of 8·28 in the death rate, and one of 4·79 in that of constantly sick; and compared with average similar ratios for the previous ten years the increase in admission rate was 6·9, and that in mortality 3·54, but in the rate of constant inefficiency through sickness there was a decline of 4·78 per 1,000. The average sick time to each soldier was 10·54 days, which was longer than the corresponding period in the previous year by 1·75 days, but shorter than the average period for the preceding ten years by 1·74 days. The average duration of each case of sickness was 16·49 days, shorter than in 1889 by 5·25 days, and than the decennial average period by 2·95 days.

In Abstract XXXIX. is given a table showing the sickness and mortality in the different corps which served in the garrison during the year. The highest annual ratios of sickness occurred in the 2nd Battalion Grenadier Guards, quartered at St. George's, with detachments at Watford and Prospect, the annual admission rate being 1262·9, and the annual rate of constant inefficiency on this account 63·49 per 1,000. The Senior Medical Officer, Brigade Surgeon J. Ross Murray, remarks that this is mainly to be accounted for by the fact that the battalion, composed of young unacclimatised soldiers, arrived in the Command at the commencement of the autumn. The general health of

the 1st Battalion Leicestershire Regiment, head-quarters at Prospect, with detachments at St. George's and Watford, was very good, the admission and constantly sick rates being 455·8 and 19·44 per 1,000. In the Artillery the annual admission and constantly sick rates were 730·8 and 28·58 per 1,000, and in the Engineers 670·7 and 34·09. The highest annual death rate was 36·58 per 1,000 in the Engineers, dependent on 6 deaths, the next 21·55 in the Foot Guards, dependent on 5 deaths, and then 9·70 in the infantry, dependent on 8 deaths. *Bermuda.*

As to the age of the men it is found that the admission ratio among men under 20 years of age was 647·1 per 1,000, that among men between 20 and 25 years of age 691·4, that among men between 25 and 30 years of age 588·2, and that among men over 30 years of age 445·9. These ratios are all in excess of the corresponding rates in the previous year, but as in that year the highest ratio was among men between 20 and 25 years of age. Of the deaths in the country 3, or 22·06 per 1,000, were among men under 20 years of age, 9, or 10·13 per 1,000, among men between 20 and 25 years of age, 2, or 5·35 per 1,000, among men between 25 and 30 years of age, and 4, or 27·03 per 1,000, among men over 30 years of age. With regard to the influence of length of service in the Command, it is calculated that the admission rate among men in their first year of service was 933·3 per 1,000, that among men in their second year 415·2, that among men in their third year 771·8, and that among men over three years' service in the Command 481·9 per 1,000. Compared with corresponding rates in the previous year all these ratios show an increase, and while the highest ratio in that year was among men in their third year of service in the Command, in the year under report it was among men in their first year. As to mortality, 10 of the deaths in the country, or 17·09 per 1,000, occurred among men in their first year of service, 5, or 7·44 per 1,000, among men in their second year, and 3, or 14·56 per 1,000, among men in their third year of service.

In Abstract VI. will be found a table giving the statistics of sickness and mortality according to the different groups and orders of diseases.

GENERAL DISEASES.—*Diseases dependent on Morbid Poisons.*—There were no admissions for *eruptive fevers*, but *enteric fever* caused 62 admissions and 10 deaths, being in the ratios of 40·1 and 6·47 per 1,000. Compared with corresponding ratios in the preceding year there is an increase of 19·6 in the ratio of admission and one of 1·93 in that of mortality, but compared with similar average ratios for the previous five years there is only a fractional difference in either case. The per-centage of mortality to attacks was 16·1 as compared with 7·4 in the previous year, and 17·6 the average of the preceding five years. The Senior Medical Officer remarks that "enteric fever is now "admitted to be endemic in these islands, the autumn months being those in "which it is most prevalent. This year the disease appeared unusually early. "The first case occurred at St. George's in a man of the Leicestershire "Regiment recently arrived from musketry camp at Warwick, where he con-"tracted the disease. The cases were pretty evenly distributed through the "garrisons occupied, with the single exception of Ireland Island. The im-"munity of this place from the disease is remarkable, its sanitation is "certainly not better than that of the other garrisons, and the barracks are case-"mated, yet not a single case occurred there. The only reason which can be "given for this immunity, which has also been noticed in previous years, is "that the men are quartered on a point of the island with free exposure to "the wind in all directions, and have little or no communication with the "insanitary towns on the mainland." The Senior Medical Officer is of opinion that foci of enteric fever have been established at Hamilton and St. George's, in both of which there is a system of cesspits seldom or never cleaned out; in the immediate neighbourhood of these are tanks in which drinking water is stored, and which are easily polluted in the spongy, porous soil. Soldiers visit these towns freely, and so contract the disease and spread the germs to the more sanitary barrack sites. Until the sanitation of these towns, a proceeding difficult and costly, is taken in hand in an earnest and thorough manner it is thought that enteric fever must be more or less constantly present in the garrisons, and the most the military authorities can do is to attend to sanitation as far as possible so as to minimise the evil. Were this cause of

Bermuda. inefficiency and mortality removed, Bermuda should be one of the healthiest of the British Colonies. *Simple continued fever* caused 69 admissions, showing a ratio of 44·6 per 1,000, as compared with 12·1 in the previous year. Of the cases 15 occurred at Prospect, 9 at Watford, and 45 at St. George's. Some of these cases, the Senior Medical Officer remarks, were due to exposure to the sun while on working parties, and some few may have been mild cases of enteric fever, as in the climate of Bermuda the symptoms of enteric fever are not always characteristic, and often it is very difficult, if not impossible, to distinguish the cases. The remaining admissions in this sub-group of diseases were two cases of dysentery, one of which proved fatal, and 41 for influenza, which was very prevalent in a mild form at the beginning of the year. 27 cases occurred at St. George's and 14 at Prospect.

Venereal Diseases.—20 admissions are shown for *primary syphilis*, being in the ratio of 12·9 per 1,000, which is lower than the corresponding rate in the previous year by 10·6. Including the cases of simple venereal ulcer, the admission rate for primary venereal sores was 16·8 per 1,000, a decrease of 22·6 from the similar rate in the previous year, and of 11·8 from the average rate of the preceding five years. *Secondary syphilis* shows 44 admissions, or 28·5 per 1,000, an increase of 14·1 on the last year's rate and of 6·2 on the average rate. There were only 18 admissions for *gonorrhœa*, the ratio being 11·6 per 1,000, a decline of 3·5 from the rate in the previous year, and of 11·0 from the average rate of five years. The admission ratio for all forms of venereal disease amounted to 56·9 per 1,000, which is lower than the corresponding rate in the previous year by 12·0, and than the quinquennial average rate by 16·6. The total amount of constant inefficiency on account of these diseases was 4·52 per 1,000, which differs only fractionally from the average rate, and is almost identical with the rate in the preceding year.

Parasitic diseases caused two admissions, and there were 15 admissions for *alcoholism*, but no cases of delirium tremens. *Debility* shows 27 admissions, or 17·5 per 1,000, as compared with 13·6 in the previous year.

Rheumatism was the cause of 29 admissions, mostly slight cases. The admission rate, 18·8 per 1,000, is below the average, but higher than in 1889 by 12·0.

Tubercular diseases caused 6 admissions and 3 deaths. In the preceding year there were 4 cases and no death. *Other diseases* comprised 4 cases of papilloma and 2 of anæmia.

Local Diseases.—*Diseases of the Nervous System.*—12 admissions are recorded, or 7·7 per 1,000, which is about the average rate of the previous five years, though above the last year's rate by 2·4. The admissions were 8 for neuralgia, 1 for paralysis, and 3 for dementia. *Diseases of the Eye.*—The admissions numbered 23, equal to 14·9 per 1,000, as compared with 10·6 in the previous year. *Diseases of the ear* caused 16 admissions, or 10·3 per 1,000, as compared with 5·3 in 1889. *Diseases of the circulatory system* gave 6 admissions, four for palpitation, one for valvular disease of the heart, and one for varix. There was one death from valve disease, out of hospital. *Diseases of the respiratory system* caused 59 admissions and one death. The admission ratio, 38·1 per 1,000, was double that in the preceding year, and also above the average rate of five years. Of the cases treated 42 were bronchial affection, mostly mild, and among the remainder were 4 of pneumonia and 5 of pleurisy, one of which terminated fatally. *Diseases of the digestive system* were the cause of 184 admissions and 2 deaths. The admission ratio, 119·0 per 1,000, is in excess of that in the preceding year by as much as 78·8, and is also somewhat above the quinquennial average rate. More than half the admissions were due to diarrhœa, most of which occurred at St. George's, chiefly among the young soldiers of the recently arrived Grenadier Guards. New arrivals in these islands are said to be very liable to this disease. Among the remaining cases treated 38 were affections of the mouth and throat, and 26 dyspepsia. The deaths were one from typhlitis and one from peritonitis. *Diseases of the lymphatic and glandular system* were at the rate of 11·0 per 1,000, being less frequent than in the previous year. *Urinary affections* caused 2 admissions, both for incontinence. *Diseases of the generative system* gave 29 cases, or 18·8 per 1,000, rather below the last year's rate. *Diseases of the organs of locomotion* show a slight increase in frequency,

the rate, 8·4 per 1,000, being increased by 2·3. *Diseases of the connective tissue* caused 64 admissions, being in the rate of 41·4 per 1,000, considerably in excess of the ratio in the preceding year. *Skin diseases* gave an admission ratio of 40·1 per 1,000, which is below the average rate as well as below the last year's rate. Under the head of *poisons* are shown two admissions for poisoned wounds by stinging insects. *Bermuda.*

Injuries.—157 are returned, being in the ratio of frequency of 101·6 per 1,000, which differs only fractionally from the quinquennial average rate, but is higher than the rate in 1889 by 11·4. The cases were mostly contusions, wounds, or sprains, but there were 4 cases of sunstroke. One death occurred from fracture of the cervical spine through diving from a height into shallow water.

Invaliding.—The number of men invalided home was 21, being in the ratio of 13·58 per 1,000, which is lower than the corresponding ratio in the previous year by 3·84, and than the average rate for the preceding ten years by 3·39. The ratio of invaliding in the artillery was 7·69, in the engineers 30·49, and in the infantry 16·97 per 1,000. With regard to age 2 men, or 14·71 per 1,000, were under 20 years of age; 12, or 13·51 per 1,000, between 20 and 25 years of age; 5, or 13·37 per 1,000, between 25 and 30 years; and 2, or 13·51 per 1,000, over 30 years of age. 5 of the men invalided, or 8·57 per 1,000, were in their first year service in the Command; 15, or 22·32 per 1,000, were in their second year, and 1 man had been over three years in the Command. The principal causes of invaliding were respiratory affections 4 cases, aural disease 3, hernia 2, and synovitis 2 cases. The number of men finally discharged as medically unfit for further service was 18, equal to a ratio of 11·64 per 1,000. There is only a fractional difference between this and the corresponding rate in the previous year, but it is above the decennial average rate by 1·74. The principal disabilities necessitating discharge were mental affections 3 cases, aural diseases 3, and diseases of the digestive system, diseases of the organs of locomotion, and debility 2 cases respectively.

Officers.—The average strength was 63, and the number of attacks of illness 22. The ratio of sickness was, therefore, 349·2 per 1,000, which is above that in the preceding year by 95·0. Among the cases treated were 5 of fevers, including one of enteric fever, 5 of diarrhœa, and 3 of rheumatism. 3 officers were invalided, one for dysentery, papilloma, and vertigo respectively.

Women.—The average strength was 92, and the admissions numbered 39. The admission ratio, 423·9 per 1,000, is in excess of that recorded in the preceding year by 235·0. The principal causes of sickness were digestive disorders and debility.

Children.—The average strength was 156, and there were 130 admissions, and 2 deaths. The ratio of admission, 833·3 per 1,000, is much in excess of that in the previous year. Among the cases treated were 10 of measles, 29 of whooping-cough, 16 of bronchitis, and 36 of diarrhœa. One of the deaths was due to bronchitis and the other to diarrhœa.

Sanitary Conditions.—The Senior Medical Officer reports that the accommodation in barracks was sufficient. A temporary hospital was occupied at Prospect, but during the latter part of the year a new hospital, on approved plans, was commenced on an excellent site. During the prevalence of enteric fever additional accommodation was provided by pitching marquees, so that at no time was there overcrowding. The drainage system at Prospect for the urinals and ablution and bath rooms is said to have worked well; the drains are thoroughly and satisfactorily flushed by means of Field's automatic apparatus placed at several points. The dry-earth system is in use in the latrines, but it requires constant supervision to ensure it being carried out satisfactorily. This system, the Senior Medical Officer remarks, admirable as it is at other stations, is not suited to Bermuda on account of the dampness of the climate and the nature of the soil, and he thinks it would be a great improvement if all excreta and refuse could be disposed of by incineration.

At Prospect Camp the sanitary conditions were satisfactory, and constant attention and supervision were exercised over all details. Frequent analyses of water were made with the result that recommendations were put forward and agreed to that every tank for drinking water should be cleaned out once a year.

Bermuda. At Boaz a prisoners' room was found to be overcrowded and more accommodation was provided. The system of drainage at Lodge Point quarters was found to be in a defective and insanitary state, it was therefore remodelled, and now works satisfactorily. Some defects were noticed in the working of the dry-earth system. At Ireland Island these were represented and improvement resulted. The cemetery at Boaz is too close to the hospital, and as the soil, coralline limestone, is unsuitable for inhumations it is thought that this is a yearly increasing danger. No other site is available on this small island, therefore, a recommendation has been put forward that interments from Boaz should be made on some detached island in the harbour; it is thought that this will be carried out. At St. George's a thorough examination of the drainage system was made, and various defects were discovered, such as broken pipes, improper gradients, defective traps, &c., all these points were rectified with the result of marked improvement in health.

VI.—ON THE HEALTH OF THE TROOPS SERVING IN THE WEST INDIES.

Sickness and Mortality.

I.—White Troops.

West Indies Command.

The average strength serving in the West Indies during the year was 1,044 warrant officers, non-commissioned officers, and men. In the Barbados Command the average strength was 568, and in the Jamaica Command 476. The force in the Barbados Command was as follows:—No. 17 Battery, Western Division, Royal Artillery, until April, when it left for Halifax, having been relieved by No. 23 Battery, Western Division, from Jamaica; the headquarters 2nd Battalion York and Lancaster Regiment; detachments, Royal Engineers and Departmental Corps, and Garrison Staff. With the exception of 24 men at St. Lucia and one man at Demerara, all the troops were stationed at Barbados. In the Jamaica Command the force comprised the 23rd Battery, Western Division, Royal Artillery, until the end of March, when it left for Barbados on relief by the 10th Battery, Western Division, from Bermuda; detachments, Royal Engineers, 2nd Battalion York and Lancaster Regiment, and Departmental Corps, and Garrison Staff. With the exception of one man at Nassau all the troops were stationed in Jamaica, the average strength at Newcastle being 301, at Port Royal 67, and at Up Park Camp 107.

The more important statistics of sickness and mortality among the troops in each division of the Command, as well as of those in the West Indies, taken as a whole, are shown in the subjoined table:—

1890.	Average Strength.	Admissions.	Deaths			Invalids	
			In the Command.	Of Invalids.	Total.	Sent Home.	Finally Discharged.
Barbados Command - - -	568	769	5	—	5	8	6
Jamaica Command - - -	476	472	4	1	5	22	22
West Indies - - -	1,044	1,241	9	1	10	30	28

(continued.)

1890.	Average daily Sick.	Ratio per 1,000 of Strength.				
		Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.
Barbados Command - - -	41·39	1353·9	8·80	14·08	10·56	72·87
Jamaica Command - - -	26·39	991·6	10·50	46·22	46·22	55·44
West Indies - - -	67·78	1188·7	9·58	28·73	26·82	64·92

West Indies Command.

If the statistics of sickness and mortality in the Barbados Command are compared with those for the preceding year, it will be observed the ratio of admission is increased by 145·8 per 1,000, the death rate by 4·55, and the constantly sick rate by 9·12. The average sick time to each soldier, 23·27 days, is longer by 3·33 days, and the average duration of each case of sickness, 19·64 days, is longer by ·38 of a day.

In the Jamaica Command also there is a general increase in the ratios of sickness and mortality as compared with the return for the preceding year, the admission rate being higher by 321·2, the death rate by 1·53, and the rate of constantly sick rate by 18·49 per 1,000. The average sick time to each soldier was 20·24 days, and the average duration of each case of sickness 20·41 days, the former being longer by 6·76 days and the latter by ·29 of a day than the corresponding periods in the preceding year.

Taking all the troops in the West Indies together, the ratio of admission is increased by 206·6 per 1,000 as compared with the corresponding rate in the previous year, the death rate by 3·93, and the constantly sick rate by 12·43; and in comparison with similar average rates for the previous ten years the admission ratio is increased by 183·3 per 1,000, and the constantly sick rate by 161·5; but the rate of mortality is lower by 4·85. The average sick time to each soldier was 23·69 days, which is longer than the corresponding period in the preceding year by 4·53 days, and than the average similar period for the previous ten years by 5·89 days; the average duration of each case of sickness was 19·93 days, longer by ·42 of a day than in 1889, and by 2·23 days than the average decennial period.

In Abstract XL. will be found a table showing the most important of the statistics of sickness and mortality of the different corps which served in the West Indies during the year.

In the artillery at Barbados, No. 23 Battery, Western Division, for nine months, gave an annual admission rate of 2160·5 per 1,000, and a constantly sick rate of 103·70; in the first three months of the year while at Jamaica the same battery gave annual rates of 520·0 and 25·50 respectively; at Jamaica, headquarters at Newcastle for nine months, the 10th Battery, Western Division, gave an annual admission rate of 930·5 per 1,000 and a constantly sick rate of 53·19. There were two deaths in the artillery, one in the 23rd Battery at Jamaica and one in the 17th Battery at Barbados. The headquarters, 2nd Battalion York and Lancaster Regiment at Barbados, gave an admission rate of 1259·1 per 1,000, a death rate of 9·68, dependent on four deaths, and a constantly sick rate of 69·64; and the wing of this regiment stationed at Newcastle, Jamaica, with a detachment at Up Park Camp, gave a ratio of admission equal to 1195·4, a mortality rate, dependent on 3 deaths, equal to 9·93, and a ratio of constantly sick equal to 65·99 per 1,000.

The sickness and mortality according to the age of the men has been calculated, and it is found that the admission ratio among men under 20 years of age was 941·2 per 1,000, a good deal less than the corresponding rate in the previous year; among men between 20 and 25 years of age the ratio was 1401·7, and among men in the next quinquennium it was 1009·4 per 1,000, both of which show an increase as compared with the last year's return; but the ratio among men over 30 years, 724·8 per 1,000, shows a decrease. There was no mortality among men under 20 years of age, but 3 deaths, or 5·30 per 1,000, occurred among men between 20 and 25 years of age, about the same rate as in the previous year; among men between 25 and 30 years of age the rate was 12·54, dependent on 4 deaths, and among men over that age 18·35, dependent on 2 deaths; both these rates are higher than in the preceding year.

With regard to length of service in the Command, the admission ratio among men in their first year of service was 1188·5 per 1,000, a considerable increase on the rate in the preceding year; among men in their second year of service 1227·0 per 1,000, a decline of 923·4; among men in their third year of service the ratio was 754·5, and among men over three years' service in the Command 2188·7 per 1,000; both these ratios show an increase as compared with last year's return. Of the deaths 2, or 6·39 per 1,000, occurred among men in their first year of service in the Command, 6 among men in their second year, or 11·74 per 1,000, none among men in their third year of service,

and 1, a man over three years' service in the Command, or 18·87 per 1,000. These death rates are all somewhat in excess of the corresponding rates in the previous year. *West Indies Command.*

In Abstract VII. will be found the most important of the statistics of sickness and mortality arranged according to the different groups and orders of diseases.

General Diseases.—*Diseases dependent on Morbid Poisons.—Enteric fever* was the cause of 9 admissions and one death. The ratio of admission, 8·6 per 1,000, is higher than the corresponding rate in the previous year by 2·0, but lower than the corresponding rate for the previous five years by 2·8. The per-centage of mortality to attack was 11·1, as compared with 28·5 in the preceding year and 21·6 the average of five years. Of the cases 8, or 16·8 per 1,000, occurred in Jamaica, the rate in the previous year being 15·7. Two of these cases were at Up Park Camp, and were traced to bad water delivered from the Hope river; the remaining six cases were at Newcastle, and one terminated fatally; none of these were definitely traced to their origin. One case of enteric fever is shown in the return for the Barbados Command, but it is stated that the man had only just arrived from Jamaica, and that he was feeling ill during the voyage from that place.

Simple continued fever caused 94 admissions, equal to a ratio of 90·0 per 1,000, an increase of 50·4 on the corresponding rate of last year, but below the average rate of five years by 20·8. Of the admissions 63, or 132·3 per 1,000, occurred in Jamaica, 47 at Newcastle, and 16 at Up Park Camp; these cases were mild, but much more numerous than in the preceding year. In the Barbados Command there were 31 admissions, or 54·6 per 1,000, an increase of 23·7 on the previous year's rate.

Dysentery.—12 admissions and one death are recorded; the ratio of admission was 11·5 per 1,000, an increase of 4·9 on the rate returned in 1889. At Barbados 7 admissions and one death occurred, and at Jamaica there were 5 cases, mostly mild. Influenza was the cause of 62 admissions, equal to 59·4 per 1,000. Of these 39, or 68·7 per 1,000, occurred at Barbados, and 23, or 48·3 per 1,000, at Jamaica.

Malarial Fevers.—22 admissions are returned, or 21·1 per 1,000, which is almost identical with the rate in the preceding year, it is, however, lower than the quinquennial average rate by 11·0. In Jamaica there were only 3 cases of ague. In the Barbados Command there were 19 cases, or 33·4 per 1,000, an increase on the last year's rate; of the cases, 2 were ague at Barbados, 2 at Demerara, and 4 at St. Lucia, at which place also there were 11 cases of remittent fever.

Venereal Diseases.—The admissions for *primary syphilis* were 64 in number, equal to a ratio of 61·3 per 1,000, which is more than three times as great as the corresponding rate in the previous year. Including simple venereal ulcer, for which the admissions were 112, and the number constantly sick 8·36, the admission ratio for primary venereal sores was equal to 168·5, and the constantly sick rate to 12·80 per 1,000, which are higher than the corresponding rates in the previous year by 49·7 and 4·30, and than average similar ratios for the preceding five years by 61·4 and 5·08 per 1,000 respectively. In the Barbados Command the admission ratio for primary venereal sores was 190·1 and the constantly sick rate 14·58 per 1,000, as compared with 169·1 and 12·30 in the previous year. In Jamaica primary venereal sores gave a ratio of admission of 142·8 and a constantly sick rate of 10·70 per 1,000, as compared with 49·3 and 3·29 respectively. The admissions for *secondary syphilis* were 40 in number, and there were 4·33 men constantly sick, being in the ratios of 38·3 and 4·15 per 1,000 respectively, which are higher than those in the previous year by 5·3 and ·29 and than quinquennial average ratios by 6·0 and 1·19 respectively. In the Barbados Command alone the admission rate was 26·4 and the constantly sick rate 3·22 per 1,000, as compared with 24·4 and 1·87 respectively in the previous year. In Jamaica secondary syphilis gave an admission ratio of 52·5 and a constantly sick rate of 5·25 per 1,000, as compared with 44·8 and 6·61 respectively in 1889. *Gonorrhœa* caused 155 admissions and the constant sickness of 11·05 men, being in the ratios of 148·5 and 10·58 per 1,000 respectively higher than the corresponding rates in the previous year by 19·4 and 1·24, and than average similar rates for the preceding five years by 16·2 and 2·30. In the Barbados

West Indies Command.

Command the ratio of admission was 207·7 and that of constantly sick 15·42 per 1,000, being higher by 11·0 and 1·04 than the similar rates in the previous year. In Jamaica the admission rate was 77·7 and the constantly sick rate 4·81, as compared with 35·9 and 2·40 per 1,000 respectively. Including all forms of venereal disease, the total admission rate was 355·3 per 1,000, which is in excess of the corresponding rate in the preceding year by 74·4 and above the quinquennial average rate by 83·6. The total ratio of constant inefficiency on account of these diseases was 27·53 per 1,000, which is also in excess in each of the above comparisons by 5·83 and 8·57 respectively. In the Barbados Command the total admission ratio was 424·2, and the total rate of constantly sick 33·22 per 1,000, as compared with 390·2 and 28·55 in the preceding year, and in the Jamaica Command the total admission ratio was 273·0 and the total rate of constant inefficiency on account of these diseases 20·76 per 1,000, as compared with 130·1 and 12·30 in 1889.

Three admissions are recorded for *alcoholism*, all of which occurred at Barbados. There were 17 admissions for *debility*, 13 at Barbados and 4 at Jamaica.

Rheumatism.—Under this head 44 admissions and one death are returned. The ratio of admission was 42·2 per 1,000, which, though above the average rate, is lower than in the previous year by 5·9. Of the cases 37 occurred at Barbados, four being rheumatic fever, and of the 7 admissions for rheumatism at Jamaica one was a case of rheumatic fever, which terminated fatally.

There was no admission for *tubercular disease*, but an invalid died from lung affection after leaving the Command.

For *other diseases* of this group 4 admissions only are returned, three being cases of non-malignant new growth and one being a case of scrofula.

Local Diseases.—*Diseases of the Nervous System* caused 22 admissions, being in the ratio of 21·1 per 1,000, which is above the quinquennial average rate, and above the corresponding rate in the preceding year by 7·0. The admissions were equally divided between the two Commands, and included 7 cases of epilepsy, 5 of vertigo, 3 of paralysis, and 3 of mental disease.

Diseases of the Eye.—The admission rate was 22·0 per 1,000, which is higher than the rate in the previous year by 6·9, and above the average rate. Out of 23 admissions, 19 were for conjunctivitis. *Diseases of the Ear*, with an admission rate of 12·5 per 1,000, were below the average, but more frequent than in 1889.

Diseases of the Circulatory System caused 19 admissions, showing an admission rate of 18·2 per 1,000, an increase of 7·8 on the last year's rate and above the average. 16 of the cases were returned as palpitation, 2 as valvular disease of the heart, and one as syncope.

Diseases of the Respiratory System.—The admission ratio was 28·7 per 1,000, almost identical with that in the previous year, but below the average rate. The admissions comprised 21 of bronchial affection, 5 of pneumonia, 3 of pleurisy, and one of pneumonic phthisis. Two deaths occurred from pneumonic phthisis.

Diseases of the Digestive System.—121 admissions are returned, being in the ratio of 115·9 per 1,000, which is slightly in excess of the corresponding rate in the previous year, and above the quinquennial average rate. The ratio in the Barbados Command was 142·6, and that in the Jamaica Command 84·0 per 1,000, the former being higher and the latter somewhat lower than the similar rate in the previous year. The principal diseases causing admission were affections of the mouth and throat 32 cases, dyspepsia 32, diarrhœa 23, and hepatic disease 10 cases. There was one fatal case of hepatic congestion.

Diseases of the Lymphatic and Glandular System, with a ratio of 40·2 per 1,000, were rather more prevalent than in the previous year, but below the average. *Diseases of the urinary system* were less frequent, only 2 admissions being returned, one of which was a fatal case of rupture of the bladder. *Diseases of the generative system* gave a ratio of 127·4 per 1,000, which is in excess of the last year's rate by 14·3. Of 133 admissions, 112 were due to simple venereal ulcer, and 102 of these occurred in Barbados. *Diseases of the organs of locomotion* caused an admission ratio of 8·6 per 1,000, and *diseases of the connective tissue* one of 43·1, the former being lower and the latter higher than the corresponding rate in the previous year. *Diseases of the skin* caused 64 admissions, or 61·3 per 1,000, which is considerably below the previous year's rate and the average rate. Under the head of *poisons* a single case of alcoholic poisoning is returned.

West Indies Command.

Injuries.—The admissions were 182 in number, being in the ratio of 174·3 per 1,000, which is higher than the rate in the preceding year by 23·5, and above the average. Contusions, wounds, and sprains formed the bulk of the admissions, and among the remainder there were 7 cases of fracture.

Invaliding.—The number of men invalided home from the West Indies was 30, equal to a ratio of 28·73 per 1,000, which is above the corresponding rate in the previous year by 10·82, and above the decennial average rate by 4·08. The invaliding rate from the Barbados Command alone was 14·08 per 1,000 and that from the Jamaica Command 46·22, as compared with 4·88 and 35·87 respectively in the previous year. Of the men invalided, the 2nd Battalion York and Lancaster Regiment furnished 24, the artillery 3, and other corps 3. With regard to age 21 men, or 37·17 per 1,000, were between 20 and 25 years of age, 8 men, or 25·08 per 1,000 between 25 and 30 years of age, and one man, or 9·17 per 1,000, was over 30 years of age. With regard to service in the Command, 7 men, or 22·36 per 1,000, were in their first year of service, 20, or 39·14 per 1,000, in their second year of service, 1 man, or 5·99 per 1,000, in his third year, and 2 men, or 37·73 per 1,000, over three years' service in the Command. The causes of invaliding were hernia 5 cases, constitutional syphilis and rheumatism each 4 cases, palpitation 3, epilepsy 3, mental affection 2, injury 2, and debility, vertigo, valve disease of heart, tubercle, scrofula, iritis, and flat feet one case respectively.

The number of men discharged the service during the year as medically unfit for further service was 28, equal to a ratio of 26·82 per 1,000, which exceeds the corresponding rate in the previous year by 17·40, and the decennial average rate by 13·86. The number of men from the Barbados Command alone who were discharged as invalids was 6, or 10·56 per 1,000, and the number from the Jamaica Command was 22, or 46·22 per 1,000. The principal disabilities necessitating discharge were nervous diseases 5, including two of mental affection, debility 4, diseases of the digestive system 4, and diseases of the eye, constitutional syphilis, and diseases of the circulatory system 3 cases respectively.

Officers.—The average strength was 116, of which 51 were stationed in the Barbados Command and 65 at Jamaica. The attacks were 20 in the former and 49 in the latter, a total of 69, giving a ratio of sickness of 594·8 per 1,000, which exceeds the corresponding rate in the previous year by 41·2. Among the cases treated were 6 of malarial disease (five being remittent fever), 4 of simple continued fever, and one case of enteric fever. Two deaths occurred, one from enteric fever and the other from remittent fever. Five officers were invalided, two for debility and one for rheumatism, remittent fever, and fistula in ano respectively.

Women.—The average strength was 90, and the attacks of illness 49, equal to a ratio of 544·4 per 1,000, an increase of 7·8 on the last year's rate. In the Barbados Command the strength was 48 and the cases of sickness 25, and in Jamaica the strength was 42 and cases of sickness 24. Among the cases treated were 4 of influenza, 4 of dysentery, 8 of debility, and 8 of uterine affection.

Children.—The average strength was 148, of which 88 were at Barbados and 60 at Jamaica. There were 36 cases of sickness in the former place and 31 in the latter, the total 67 gives a ratio of sickness equal to 452·7 per 1,000, which is lower by 13·5 than the rate in the previous year. There were 8 deaths, or 54·05 per 1,000, an increase of 1·42; of these 5 occurred in the Barbados Command and 3 at Jamaica. Among the cases treated were 5 of influenza, 6 of simple continued fever, 8 of dysentery, 3 of remittent fever, and 10 of bronchial affection. The causes of death are returned as debility 2 cases, and whooping cough, remittent fever, convulsions, diarrhœa, bronchitis, and ascaris lumbricoides one case respectively.

Sanitary Conditions.—The Senior Medical Officer of the Barbados Command reports that the accommodation in barracks was generally good, and whenever any overcrowding existed it was at once remedied. At Saint Lucia new barrack rooms at the Vigie and the La Toc hutments, with accessory buildings, were erected and occupied during the year. The ventilation of barracks generally is said to have been satisfactory, and the drainage to have been in good order. The water supply was good and sufficient. The clothing of the men was generally suitable, but at St. Lucia, as the men quartered there were so liable to chills, it was considered desirable that they should wear flannel shirts as a rule, or a merino vest underneath a cotton shirt, and orders were given to

West Indies Command.

that effect. The following sanitary improvements were carried out:—At the station hospital, Barbados, a new ablution room and two waterclosets were completed, and soil pipes were removed from the inside to the outside of the building. At the Brick barracks improvements were effected in the warrant officers' quarters, and earth-closets and baths provided. The Senior Medical Officer, Jamaica, mentions the necessity for keeping down the bush on all sides and preventing its encroachment on the area occupied by troops, also for having the occupation of the barrack huts authoritatively fixed, so as to allow each occupant a proper amount of cubic space and to prevent any chance of local congestion. The accommodation in barracks remained the same during the year, but the ventilation was improved at Newcastle, Up Park Camp, and Port Royal. The drainage at Newcastle and Up Park Camp was much improved, especially at the former station, where all the old drains were remodelled, lengthened, and re-made with concrete, and by having surface concrete drains made all round each hut. A practically new water supply was provided by having the Spring tank disconnected from the barracks and the springs at the higher levels opened up, and by the addition of filters of sand, gravel, and charcoal to each water main. At Up Park Camp an entirely new water supply was laid on to replace that from the Hope river, which has been gradually becoming more and more contaminated of late. At Newcastle during the absence of the troops for musketry the boarding of the huts along the floor line was removed to clean out the interval between the outer boards and the lining which had become full of débris of all kinds. At Up Park Camp and Port Royal the surface drainage was improved, and the ground round the barracks levelled. Deficient hospital and store accommodation was experienced at Newcastle and was represented. A new ablution room was provided for this hospital, and additional drainage was supplied. At the hospital at Up Park Camp concrete drainage was provided. The recreation room at Newcastle was much used, and such rooms are required at Port Royal and Up Park Camp.

II.—Black Troops.

The average strength of non-commissioned officers and men, exclusive of white sergeants, was 1,083; of these 345 were stationed in the Barbados Command and 738 in the Jamaica Command. The force in the Jamaica Command consisted of the headquarters 1st Battalion, and depôt West India Regiment throughout the year, and the West India Submarine Mining Company, Royal Engineers, from April to the end of the year. The stations occupied were, in Jamaica, Up Park Camp and Port Royal, average strength 565 and 102 respectively, and Nassau, Bahamas, average strength 71. In the Barbados Command were detachments of the 1st and 2nd Battalions West India Regiment throughout the year, and the West India Fortress Company, Royal Engineers, raised at Barbados in July. The stations occupied were Barbados, average strength 209, Demerara 86, and St. Lucia 50.

The more important statistics of the sickness and mortality among black troops in each of the divisions as well as among those serving in the West Indies as a whole will be found in the subjoined table:—

1890.	Average Strength.	Admissions.	Deaths			Invalids	
			In the Command.	Of Invalids.	Total.	Sent Home.	Finally Discharged.
Barbados Command - -	345	413	1	—	1	—	6
Jamaica Command - -	738	920	11	—	11	—	40
West Indies - - -	1,083	1,333	12	—	12	—	46

(continued.)

West Indies Command.

1890.	Average daily Sick.	Ratio per 1,000 of Strength.				
		Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Average Constantly Sick.
Barbados Command - -	25·80	1197·1	2·90	—	17·39	74·78
Jamaica Command - -	49·98	1246·6	14·91	—	54·20	67·72
West Indies - - -	75·78	1230·8	11·08	—	42·47	69·97

Taking the statistics for the Barbados Command and comparing them with those recorded in the previous year, a decrease is observed in all the ratios, being as much as 482·1 in the case of admissions, 6·53 in that of death, and 26·32 in that of constantly sick. The average sick time to each soldier was 27·29 days, which is shorter by 9·61 days than the corresponding period in the previous year. The average duration of each case of sickness was 22·80 days, which is less by 4·30 days.

In the Jamaica Command there was a slight increase, 28·8, in the ratio of admission, but there was a decline of 9·63 in the ratio of mortality, and one of 5·26 in the rate of constantly sick. The average sick time to each soldier was 24·72 days, and the average duration of each case of sickness 19·83 days; the former being shorter by 1·91 days and the latter by 2·04 days than the corresponding periods in the preceding year.

Taking all the black troops in the West Indies, it is observed that the admission rate is lower by 138·2 than the corresponding rate in the previous year, the death rate by 8·50, and the constantly sick rate by 12·22, but compared with average similar ratios for the preceding ten years the admission and constantly sick rates are increased by 98·1 and 5·58 respectively, while the mortality ratio is lower by 3·86. The average sick time to each soldier was 25·54 days, which is shorter than the corresponding period in the previous year by 4·46 days, but longer than the average period for the preceding ten years by 2·04 days. The average duration of each case of sickness was 20·75 days, longer than in the preceding year by 1·16 days, but almost identical with the decennial average period.

Taking separate corps, it is found that the headquarters 1st Battalion West India Regiment at Up Park Camp, Jamaica, had an admission rate of 1219·4 per 1,000, a death rate of 17·48, and a constantly sick rate of 69·05 per 1,000, and the Depôt West India Regiment at Up Park Camp gave a ratio of admission 1362·3, mortality rate 9·66, and constantly sick 68·21 per 1,000. The detachments of the 1st Battalion West India Regiment at Barbados and St. Lucia gave a ratio of admission equal to 1238·7, death rate to 4·11, and constantly sick rate 83·00, and the detachment 2nd Battalion at Demerara gave an admission rate of 1186·0, and a constantly sick rate of 58·84 per 1,000, but there was no mortality.

Taking the troops in the West Indies together, the sickness according to age shows that among men under 20 years of age the admission ratio was 1857·1 per 1,000, among men between 20 and 25 years of age it was 1488·2, among men in the next quinquennium 959·7, and among men over that age 611·1 per 1,000. In the preceding year the ratio first in order was only about half that in the year under report, and the highest ratio was among men between 20 and 25 years of age, decreasing after that age. Mortality among men under 20 years of age was at the rate of 14·29 per 1,000, dependent on one death; among men between 20 and 25 years of age, 11·81 per 1,000, dependent on 6 deaths; among men between 25 and 30 years of age 10·07, dependent on 4 deaths, and among men over that age 9·26, dependent on a single death. In the previous year the highest mortality rate was among

West Indies Command.

men between 25 and 30 years of age. With regard to length of service the admission ratio among men in their first year was 1411·9 per 1,000, that among men in their second year 1289·3, that among men in their third year 786·4, and that among men over three years' service 1128·4. The mortality rate among men in their first year of service was 11·94 per 1,000, 4 deaths; among men in their second year 15·72 per 1,000, 5 deaths; among men in their third year 19·42 per 1,000, 2 deaths, and among men over three years' service 3·06 per 1,000, dependent on one death.

In Abstract VIII. will be found the chief statistics of sickness and mortality arranged according to the different groups and orders of diseases.

General Diseases.—*Diseases dependent on Morbid Poisons.*—The admissions recorded under the head of *eruptive fevers* were 23 in number, or 21·2 per 1,000, a decrease of 16·9 from the corresponding rate in the previous year. Among the admissions were 9 for measles, five at Jamaica, two at Demerara, and two at St. Lucia; the remaining cases were either cow-pox or chicken-pox. *Enteric fever* caused two admissions, both with fatal result, against 5 admissions and one death in the preceding year. Both the cases occurred at Jamaica. *Simple continued fever* caused 126 admissions, equal to a ratio of 116·3 per 1,000, which is higher than the corresponding rate in the previous year by 75·1, and above the quinquennial average rate. Of the admissions, 106 were in Jamaica and 20 in the Barbados Command. The admissions for *dysentery* numbered 9 as compared with 2 in the previous year; all the cases occurred in Jamaica. *Other diseases* of this group were represented by 3 cases of influenza at Barbados.

Malarial Fevers.—There was a marked decline in the prevalence of these fevers, the admission ratio, 97·9 per 1,000, being lower than that in the previous year by 69·1, and below the average ratio for the preceding five years. Of the cases, 81, or 234·8 per 1,000, occurred in the Barbados Command, but this rate is not much more than half that in the previous year. There were 65 cases of ague, 47 at St. Lucia, and 18 at Demerara, and 16 cases of remittent fever, 15 at St. Lucia, and 1 at Demerara. At Jamaica, 22 cases of ague occurred and 3 of remittent fever, with fatal result in one instance.

Septic diseases were represented by a single case of erysipelas.

Venereal Diseases.—The admissions for *primary syphilis* were 117 in number, being in the ratio of 108·0 per 1,000, which is almost identical with the corresponding rate in the previous year, though above the average rate. Of the cases, 109, or 147·7 per 1,000, were returned in the Jamaica Command, and 8, or 23·2 per 1,000, in the Barbados Command. Including the sickness from simple venereal ulcer, which caused 109 admissions, and the constant sickness of 10·49 men, the admission ratio for primary venereal sores was 208·7, and the constantly sick rate 19·68 per 1,000, which are lower than the corresponding rates in the previous year by 47·0 and ·82, but higher than the similar average ratios for the preceding five years by 8·3 and 3·04 per 1,000 respectively. Taking the Jamaica Command alone, the admission ratio for primary venereal sores was 203·2 and the constantly sick rate 18·15 per 1,000, as compared with 223·9 and 19·26 respectively in the preceding year. In the Barbados Command the admission ratio equalled 220·3 and the constantly sick rate 22·98 per 1,000, as compared with 320·8 and 23·05 respectively in 1889. The admissions in the West Indies for *secondary syphilis* numbered 53, and 4·43 men were constantly sick, being in the ratios of 49·0 and 4·09 per 1,000, which are lower than the corresponding ratios in the preceding year by 28·3 and 2·96 but higher than the average ratios for the previous five years by 10·0 and ·89 respectively. In the Jamaica Command only the admission rate was 58·3 and the constantly sick rate 4·85 per 1,000, as compared with 90·5 and 6·92 respectively in the previous year. In the Barbados Command the ratio of admission equalled 29·0 and the constantly sick rate 2·40 per 1,000, as compared with 50·3 and 7·33 per 1,000 respectively in 1889. *Gonorrhœa* caused 189 admissions in all, and 10·07 men were constantly sick with this disease. The admission ratio was, therefore, 174·5 and the constantly sick rate 9·30 per 1,000. Compared with corresponding ratios in the previous year there is an increase of 14·7 in the admission rate and one of 1·16 in the constantly sick rate, and compared with average similar rates for the preceding five years increase is observed also in both, being 12·9 and ·66 respectively.

In the Jamaica Command alone the ratio of admission was 196·5 and the constantly sick rate 9·82 per 1,000, as compared with 176·4 and 8·16 in 1889. In the Barbados Command the admission ratio was 127·5 and the constantly sick rate 8·17 per 1,000, as compared with 125·8 and 8·11 respectively in the preceding year. Including all forms of venereal disease, the total admission ratio in the West Indies was 432·2 per 1,000, which is lower than the corresponding rate in the previous year by 60·6, but higher than the average rate of five years by 31·2. The total amount of constant inefficiency on account of these diseases was 33·07 per 1,000, less than the similar rate in the previous year by 2·62, but above the quinquennial average by 4·59. Taking the Jamaica Command alone, the total admission rate for all forms of venereal disease was 457·9, and the total amount of constant inefficiency on this account, 32·82 per 1,000, as compared with 490·8 and 34·34 respectively in the preceding year. In the Barbados Command the total admission rate was 376·8 and the total constantly sick rate 33·61 per 1,000, the corresponding rates in the previous year having been 496·8 and 38·49 per 1,000 respectively. *West Indies Command.*

Under the head of *debility*, 5 admissions are returned, or 4·6 per 1,000, as compared with 8·2 in the preceding year.

Rheumatism was the cause of 72 admissions, equal to a ratio of 66·5 per 1,000, which is less than in the previous year by 9·8, though about the quinquennial average rate. The admission rate in the Barbados Command was 75·4 and in the Jamaica Command 62·3 per 1,000. Of the cases, 67 were returned as rheumatism and 5 as rheumatic fever; there was no death.

Tubercular Diseases.—12 admissions and 4 deaths are returned, being in the ratios of 11·1 and 3·69 per 1,000, which are in excess of the corresponding ratios in the previous year by 4·9 and 1·63 respectively. All the cases were tubercular disease of the lung, and 10 of them, with three of the deaths, occurred at Jamaica, one at St. Lucia, and one, which terminated fatally, at Barbados.

Four cases are returned under *other diseases* of this group of general diseases; they comprised three cases of anæmia and one of scrofula; two of the former having occurred in the Barbados Command.

Local Diseases.—*Diseases of the Nervous System* caused 10 admissions, or 9·2 per 1,000, a decrease of 6·3 from the last year's rate, and below the average rate of five years. 9 of the cases occurred in Jamaica. The admissions comprised 5 of neuralgia, 3 of paralysis, one of epilepsy, and one of mental disease.

Diseases of the Eye.—44 admissions are recorded, the ratio being 40·6 per 1,000, which is lower than that in the previous year by 3·7. In Jamaica there were 33 cases and Barbados 11; most of the admissions were for conjunctivitis.

Diseases of the Ear caused only 6 admissions, 4 at Jamaica and 2 in the Barbados district.

Diseases of the Circulatory System.—15 admissions and one death are recorded. The admission rate, 13·9 per 1,000, is lower than that in the previous year by 4·6, and rather below the quinquennial average rate. Of the cases 5 were valve disease of the heart, four of which, one fatal, occurred at Jamaica, and one at Barbados; the remaining admissions were for palpitation.

Diseases of the Respiratory System caused 54 admissions and one death, the admission ratio, 49·9 per 1,000, is above the last year's rate by 2·5, but below the average rate. 38 admissions occurred at Jamaica, 31 for bronchitis, 3 for pleurisy, and 4 for pneumonia, one case fatal; at Barbados there were 10 cases of bronchitis and 6 of pneumonia.

Diseases of the Digestive System.—60 admissions are recorded and one death. There was a considerable decrease in prevalence of these affections as compared with the preceding year, the ratio, 55·4 per 1,000, having declined by 37·4; it is also much below the average rate. 36 cases, or 48·8 per 1,000, occurred at Jamaica, and 24, or 69·6 per 1,000, in the Barbados Command. Among the former were 17 cases of affection of the mouth and throat, 10 of diarrhœa, and 1 of hepatic disease, and among the latter 13 of mouth and throat affections, 6 of diarrhœa, and none of liver disease. One death occurred from peritonitis.

Diseases of the Lymphatic and Glandular System were the cause of 53 admissions, or 48·9 per 1,000, which is higher than in the previous year by 4·6.

West Indies Command.

39 of the cases occurred in Jamaica, the remainder in the Barbados district. There were 2 admissions for *urinary affections*, both cases of hæmaturia. *Diseases of the generative system* caused 126 admissions, or 116·3 per 1,000, a decline of 53·8 from the previous year's rate; 109 of the admissions were for simple venereal ulcer. 6 admissions are recorded for *diseases of the organs of locomotion*, or 5·5 per 1,000, as compared with 13·4 in 1889. There were 39 admissions, or 36·0 per 1,000, for *diseases of the connective tissue*, a slight increase; and there were 99 admissions for *skin disease*, the admission rate, 91·4 per 1,000, being nearly the same as in the previous year, but a good deal above the average rate.

Injuries.—90 admissions are returned and 2 deaths. The admission ratio was, therefore, 83·1 per 1,000, which is above the corresponding rate in the previous year by 5·8. In the Jamaica Command the ratio was 84·0, and in the Barbados district 81·2 per 1,000. The cases were generally of an ordinary character, but there were two fatal cases at Jamaica, one from sunstroke and one from gunshot wound, a case of justifiable homicide, the man having been shot while in a state of open mutiny.

Invaliding.—The number of men discharged during the year as medically unfit for further service was 46, being in the ratio of 42·47 per 1,000, which is lower than the corresponding rate in the previous year by 20·41, but is almost identical with the decennial average rate. In the Barbados Command the number of men invalided was 6, or 17·39 per 1,000, as compared with 25·16 in the preceding year, and in the Jamaica Command the number was 40, or 54·20 per 1,000, as compared with 81·29. The principal causes of invaliding were secondary syphilis 5 cases, tubercular disease of the lung 6, valve disease of the heart 4, and debility 4 cases.

Women and Children.—The average strength of women was 53, and there were 23 cases of illness, and the average strength of children was 59, with 16 cases of illness, one of which, a case returned as debility, proved fatal.

Sanitary Conditions.—The Senior Medical Officer at Jamaica reports that the sanitary conditions affecting the black troops were generally satisfactory. There was some tendency to overcrowding, but whenever this occurred it was remedied by sending the excess of men to one of the out-stations, Demerara or St. Lucia. The surface drainage round the West India barracks at Up Park Camp received attention and was improved, a new water supply was provided. The surface drainage round the station hospital was also attended to, and the general cleanliness of the camp was maintained. It is remarked that the dress of the West India soldier is unsuitable to the climate, that the head-dress is hot and close fitting, the gaiters are heavy, hot, and afford no support, the jacket is thick, and the great-coat too heavy. The Senior Medical Officer, Barbados district, reports that the health of the troops was good during the year, that the barracks and hospital accommodation was sufficient, and the sanitary conditions generally satisfactory. At St. Lucia in the month of October the sick of the troops were treated in the temporary hut station hospital at La Toc, instead of in the Colonial hospital. The water supply at the stations is of good quality and sufficient in quantity. The drainage and conservancy arrangements are generally satisfactory. The rations are good and the means of cooking ample.

VII.—ON THE HEALTH OF THE TROOPS SERVING IN WESTERN AFRICA.

Sickness and Mortality.

I.—White Troops.

West Africa.

The white troops consisted of the officers serving in the Command, the European non-commissioned officers of the 2nd Battalion West India Regiment, the non-commissioned officers and men of the Royal Artillery attached to the Houssa battery, and some non-commissioned officers and men of the Royal Engineers, the latter being engaged in the construction of barracks, &c. during the dry season from November to May, when they return to England. The average strength of non-commissioned officers and men was 30, and there were 57 admissions into hospital; the admission ratio was 1900·0 per 1,000 as compared with 2000·0 in the previous year. Out of the total number of cases treated as many as 20 were remittent fever. There was no mortality or invaliding. The average strength of officers was 26; there were 59 attacks of illness, 1 death, and 10 officers were invalided. The ratio of prevalence of sickness was, therefore, 2369·2, the death rate 38·46, and the invaliding rate 384·61 per 1,000; the first and third are below the corresponding rates in the preceding year by 716·5 and 72·53 per 1,000 respectively, while the death rate shows an increase of 9·89. Remittent fever was the chief cause of sickness, as many as 41 cases having occurred; the death was also due to this cause, as well as 6 of the cases of invaliding. The remaining instances of invaliding were caused by hypertrophy of the liver, splenitis, cystitis, and debility, one case respectively. It is stated by the Senior Medical Officer that the cases of malarial fevers were not marked by the severe symptoms which characterised those in the preceding year.

II.—Black Troops.

The average strength of non-commissioned officers and men was 585; of these 404 were at Sierra Leone (including a small detachment, average strength 32, at Robari), and 181 at Cape Coast Castle. The troops consisted of the headquarters 2nd Battalion West India Regiment and the Houssa Artillery (a native battery which is being raised), a detachment 2nd Battalion West India Regiment at Robari, and a detachment of the same battalion at Cape Coast Castle.

The most important of the statistics of sickness, mortality, and invaliding among the troops in each division of the Command, as well as those for the whole Command, will be found in the subjoined table:—

1890.	Average Strength.	Admissions.	Deaths			Invalids	
			In the Command.	Of Invalids.	Total.	Sent to West Indies.	Finally Discharged.
Sierra Leone - -	404	884	5	2	7	41	13
Cape Coast Castle - -	181	304	3	—	3		
Command - -	585	1,188	8	2	10	41	13

(*continued.*)

West Africa. (*continued.*)

1890.	Average daily Sick.	Ratio per 1,000 of Strength.				
		Admissions.	Deaths.	Invalids sent to West Indies.	Invalids finally Discharged.	Constantly Sick.
Sierra Leone - -	44·07	2188·1	17·33	70·08	22·22	109·08
Cape Coast Castle - -	13·83	1679·6	16·57			76·41
Command - -	57·90	2030·7	17·09	70·08	22·22	98·97

Compared with corresponding ratios in the preceding year the admission ratio of the troops in Sierra Leone has declined by 621·5 and the death rate by 9·08; but the constantly sick rate has increased by 10·66 per 1,000. The average sick time to each soldier was 39·81 days, and the average duration of each case of sickness 18·19 days, which are longer than the corresponding periods in the previous year by 3·89 days and 5·41 days respectively.

At Cape Coast Castle the admission ratio shows a considerable decrease, one equal to 768·8 per 1,000; also the mortality rate one of 40·13, and the constantly sick rate one of 26·06. The average sick time to each soldier was 27·89 days, which is shorter than the corresponding period in the previous year by 9·51 days, and the average duration of each case of sickness was 16·60 days, which is longer than in 1889 by 1·33 days.

Comparing the statistics for the whole Command for the year under report with those recorded in the previous year, it is observed that the admission ratio has declined by 655·3, and the death rate by 16·42; there is also a fractional decrease in the constantly sick rate; but compared with similar average ratios for the preceding ten years the ratio of admission has increased by 347·1, and the ratio of constant inefficiency through sickness by 27·23; there is, however, a decrease in the mortality rate equal to 4·70. The average sick time to each soldier was 36·12 days, shorter than in the previous year by a fraction of a day, but longer than the average period for the preceding ten years by 9·94 days. The average duration of each case of sickness was 17·79 days, longer than in 1889 by 4·23 days, and longer than the decennial average period by 2·24 days.

It will be seen that the health of the troops was considerably better than in the preceding year. This was doubtless partly due to the fact that the 2nd Battalion of the West India Regiment was in its second year of service on the coast, when men generally suffer less from malarial fever than they do in their first year; but the Senior Medical Officer says that it is worth noting that the rainfall during the year was much less than in 1889, by nearly 44 inches, which may also have had some influence in the improvement of health.

The admissions, mortality, invaliding, &c. in the different groups and orders of diseases is given in Abstract IX.

General Diseases.—*Diseases dependent on Morbid Poisons.*—In the 1st sub-group of these diseases there were only 27 admissions; of these 11 were cases of measles and 8 of influenza, all occurred at Sierra Leone; there were also 8 admissions for dysentery, 6 at Cape Coast Castle and 2 at Robari; the admission ratio for dysentery, 13·7 per 1,000, shows a decline of 30·4 from the last year's rate.

Malarial Fevers.—The admissions numbered 517, and there were 2 deaths. The ratio of admission was 883·8 per 1,000, but this rate is lower than the corresponding rate in the preceding year by 715·9, and is above the average ratio for the previous five years by only 69·9. The average ratio constantly sick from these fevers was 26·85 per 1,000, which is lower than in the previous year by 17·40, but above the average rate. Taking the Sierra Leone division alone (including Robari), there were 391 admissions, being in the ratio of 967 8

per 1,000, and in the Cape Coast Castle division there were 126 admissions, or 696·1 per 1,000; in the preceding year these two ratios were 1643·6 and 1494·9 per 1,000 respectively. Of the total number of admissions 62 were for ague and 455 for remittent fever; at Sierra Leone there were 46 cases of ague and 345 of remittent fever, and at Cape Coast Castle 16 of ague and 110 of remittent fever, two of which proved fatal. *West Africa.*

Septic diseases were represented by a single case of erysipelas at Sierra Leone.

Venereal Diseases.—The admissions for *primary syphilis* were 28 in number, or 47·9 per 1,000, as compared with 38·8 in the previous year. Including the sickness from simple venereal ulcer, the admission ratio for primary venereal sores was 107·7 per 1,000, which is higher than the corresponding rate in the previous year by 19·5, but lower than the average rate for the preceding five years. *Secondary syphilis* caused 41 admissions, equal to 70·1 per 1,000, a decrease of 21·6 from the last year's rate, but an increase of 40·5 on the quinquennial average rate. *Gonorrhœa* was the cause of 79 admissions, being in the ratio of 135·0 per 1,000, which is higher than in the previous year by 13·3, but below the average rate by 14·7. Including all forms of venereal disease, the total admission ratio amounted to 312·8 per 1,000, which is above the ratio in the previous year by 11·2, and above the quinquennial average rate by 23·5. The total amount of constant inefficiency on account of these diseases was equal to 26·56 per 1,000, which is in excess of the corresponding rate in 1889 by 8·89, and is higher than the average rate by 4·87.

Parasitic Diseases show 5 admissions, chiefly cases of tænia solium, and under the head of *debility* there were 13 admissions, or 22·2 per 1,000, as compared with 47·6 in the previous year.

Rheumatism was the cause of 65 admissions, being in the ratio of 111·1 per 1,000, which is lower than the similar rate in the previous year by 14·1, but above the average rate of five years by 35·5. No case of rheumatic fever occurred.

Tubercular Diseases.—The admission ratio was 10·3 and the death ratio 8·55 per 1,000, as compared with 12·3 and 5·29 respectively in the previous year. All the cases, 6, were instances of lung disease. Of the 5 deaths two occurred in invalids who had left the Command.

Local Diseases.—*Diseases of the Nervous System.*—The admission ratio was 8·5 per 1,000, a decrease of 3·8 from the corresponding rate in the previous year, and below the average rate of the preceding 5 years by about the same amount. Among 5 admissions there was one for mental disease, and a fatal case of tetanus. *Diseases of the eye* caused 28 admissions, or 47·9 per 1,000, an increase of 28·5 on the last year's rate, and also considerably above the average. Nearly all the admissions were due to conjunctivitis. There were no admissions for *aural disease*, but 4 for *nasal* affections. *Diseases of the circulatory system.*—7 admissions are returned, equal to 12·0 per 1,000, which is lower than in the previous year by 2·1, and a good deal below the average; 5 of the cases were returned as palpitation. *Diseases of the respiratory system* caused 52 admissions and 2 deaths. The admission ratio, 88·9 per 1,000, is higher than that in the previous year by 37·7, and than the quinquennial average rate by 30·4. Of the cases treated as many as 48 were bronchitis. One of the deaths was due to pneumonic phthisis, and the other to bronchitis. *Diseases of the digestive system.*—60 admissions are returned, being in the ratio of 102·6 per 1,000, which is above the corresponding rate in the preceding year by 39·1, and above the average rate by 28·1. The principal causes of admission were affections of the mouth and throat 25 cases, diarrhœa 13, and hepatic affections 8 cases. *Diseases of the lymphatic and glandular system* caused 32 admissions, or 54·7 per 1,000, which is lower than in the previous year by 19·4, and than the average rate by 6·1. There were 3 admissions for *diseases of the urinary system* as compared with 7 in the previous year. *Diseases of the generative system* caused 52 admissions, or 88·9 per 1,000, which is in excess of the last year's rate by 27·2. Of the admissions 35 were due to simple venereal ulcer. *Diseases of the organs of locomotion* gave 9 admissions, or 15·1 per 1,000, an increase of 1·0 on the rate in 1889. *Diseases of the connective tissue* caused an admission ratio of 41·0 per 1,000, which is lower than in the previous year by 8·4. The admission ratio for

West Africa.

diseases of the skin was 174·4 per 1,000, an increase of 19·2 on the last year's rate, and above the quinquennial average rate by 5·5. The chief causes of admission were ulcers, boils, and ringworm.

Injuries.—26 are recorded, being in the rate of 44·5 per 1,000, lower than in the previous year by 11·9, and less than half the average rate. The cases were of ordinary character.

Invaliding.—The number of men sent to the West Indies for change or discharge was 41, equal to a ratio of 70·08 per 1,000, which is a good deal higher than the average ratio for ten years, but there was no invaliding in the previous year. The principal causes of invaliding were debility 12 cases, rheumatism 6, secondary syphilis 4, tubercular disease of the lungs, cardiac disease, and affections of the nervous system 3 cases each. The number of men finally discharged the service by invaliding was 13, equal to a ratio of 22·22 per 1,000, which is above the average rate. The chief disabilities were tubercular disease 3 cases, rheumatism 2, and affections of the nervous system 2 cases.

Women and Children.—The average strength of women was 23, and there were 16 admissions, equal to a rate of 695·7 per 1,000, which is much below the corresponding rate in the previous year. Among the cases treated were 10 of remittent fever, and one, fatal, of valve disease of the heart. The average strength of children was 22, and there were 12 admissions to hospital, 11 being for remittent fever and one for ague. The admission ratio, 545·4 per 1,000, is below that in the preceding year.

Sanitary Conditions.—The Senior Medical Officer reports that the sanitary condition of the barracks, camps, and quarters in the Command were satisfactory during the year, and no disease was traced to any neglect in sanitation.

At Sierra Leone, during the first four months of the year, all the troops were quartered at Kortright Hill (with the exception of a few details at Tower Hill). The white troops and officers of the garrison benefit much by their stay in the hills, but the Senior Medical Officer has not noticed the same beneficial effects on the black troops. The water supply is reported to have been good and abundant; it was extended to the artillery huts at King Tom, a distance of two miles, during the year. New barracks were in course of construction during the year, but were not yet ready for occupation by the men. The increased accommodation is said to be necessary to relieve overcrowding. Surface drains of brick and cement have been provided wherever necessary. There was no change in the amount of hospital accommodation, but it was believed that further provision was about to be made. With regard to the clothing it was suggested that a loose serge or khaki jacket should be issued to the men as the present short shell jacket is both too tight and too hot to work in.

VIII.—ON THE HEALTH OF THE TROOPS SERVING IN SOUTH AFRICA AND AT ST. HELENA.

Sickness and Mortality.

South Africa and St. Helena.

The average strength of the warrant officers, non-commissioned officers, and men serving in the Command during the year was 2,961, and of these 138 were stationed at St. Helena.

The troops in the Command during the year comprised the 6th Inniskilling Dragoons, relieved in October by the 11th Hussars, 3 batteries of Artillery, 1 company of Engineers, the 1st Battalion Royal Scots, 1st Battalion East Yorkshire Regiment, and the 1st Battalion North Staffordshire Regiment, headquarters and 4 companies; the last-named left for Mauritius in August to relieve the other 4 companies of the regiment, which then returned to Cape Town. There were also detachments of Ordnance Store Corps, Army Service Corps, Medical Staff Corps, and Garrison Staff.

At St. Helena the garrison included a detachment 1st Battalion East Yorkshire Regiment, and detachments of artillery and engineers.

In the following table the more important statistics of sickness and mortality in the whole Command are given, and those for South Africa and St. Helena are shown separately :—

1890.	Average Strength.	Admissions.	Deaths			Invalids	
			In the Command.	Of Invalids.	Total	Sent Home.	Finally Discharged.
South Africa	2,823	2,260	19	6	25	107	67
St. Helena	138	67	—	—	—	1	1
Total	2,961	2,327	19	6	25	108	68

(*continued.*)

1890.	Average daily Sick.	Ratio per 1,000 of Strength.				
		Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.
South Africa	146·85	800·6	8·86	37·90	23·73	52·02
St. Helena	2·99	485·5	—	7·24	7·24	21·67
Total	149·84	785·8	8·44	36·47	22·97	50·60

South Africa and St. Helena.

Compared with corresponding ratios in the previous year an increase is observed in the admission ratio of the troops in the Command equal to 41·3, and in the mortality rate one equal to 2·85, but there is a decrease of 2·04 in the ratio constantly sick. Compared with average similar ratios for the preceding ten years there is an increase of 6·3 in the admission ratio, but a decrease of 9·79 in the death rate and one of 1·60 in the constantly sick rate. The average sick time to each soldier was 18·47 days, which differs only fractionally from the corresponding period in the previous year and the average similar period in the preceding ten years. The average duration of each case of sickness was 23·50 days, being shorter in the above comparisons by 2·31 days and ·94 of a day respectively.

Of the ratios for South Africa alone those for admission and mortality show an increase, but that for constant inefficiency through sickness a slight decrease. In St. Helena the admission and constantly sick rates both show a decrease; the death ratio was *nil*, as was also the case in the previous year.

In Abstract XL. will be found the more important of the statistics of sickness and mortality among the different corps which served in the Command. Excluding corps whose average annual strength was under 100 men, the highest ratios of admission, mortality, and constantly sick were 1301·5, 22·06, and 91·10 per 1,000 in the 4th Mountain Battery, Royal Artillery, quartered at Pietermaritzburg; the 6th Inniskilling Dragoons at Pietermaritzburg for 10 months gave the next highest annual admission rate, 1148·8, followed by 1145·7 in the 1st Battalion North Staffordshire Regiment at Cape Town. The lowest admission rate was 591·7 in the 8th Battery, Southern Division, Royal Artillery, at Cape Town, the next above being 607·7 in the 1st Battalion East Yorkshire Regiment, at Wynberg, and 666·7 in the 29th Battery Southern Division, Royal Artillery, at Cape Town. The second annual mortality ratio was 11·02 in the 6th Inniskilling Dragoons, and the next 10·26 in the 11th Hussars, at Cape Town and Pietermaritzburg; the lowest ratio was *nil* in the 29th Battery, Southern Division, Royal Artillery, the next above being 5·60 and 6·01 respectively in the 1st Battalion North Staffordshire Regiment and the 1st Battalion East Yorkshire Regiment. The second ratio of constant inefficiency through sickness was 77·62 per 1,000 in the 1st Battalion North Staffordshire Regiment, and the third, 71·96, in the 6th Inniskilling Dragoons; the lowest ratio was 40·06 in the 1st Battalion East Yorkshire Regiment, the next above being 44·53 in the 1st Battalion Royal Scots at Pietermaritzburg, and 45·66 in the 8th Battery, Southern Division, Royal Artillery.

Taking the sickness and mortality among the troops according to age, it is calculated that the admission ratio among men under 20 years of age was 840·0 per 1,000, that among men between 20 and 25 years of age 998·5, that among men between 25 and 30 years 669·9, that among men in the next quinquennium 490·6, and that among men over 35 years of age 168·0. In the previous year also the highest admission ratio was among men between 20 and 25 years of age, decreasing in the succeeding quinquennia. There was no mortality among men under 20 years, but the ratio among men between 20 and 25 years of age was 5·38, that among men between 25 and 30 years 5·73, that among men between 30 and 35 years 14·02, and that among men over 35 years 16·00. In the previous year the highest mortality rate was among men under 20 years of age. With regard to service in the Command the admission ratio of men in their first year was 1203·6 per 1,000, that among men in their second year 713·7, that among men in their third year 712·5, that among men in their fourth year 740·5, and that among men over 4 years' service in the Command 643·0. In the previous year also the highest admission rate was among men in their first year of service in the Command, though it was much lower than that in the year under report. Mortality was *nil* among men in their first and third years' service in the Command; but among men in their second year it was 6·68, among men in their fourth year 4·47, and among men over four years' service 17·33 per 1,000. In the preceding year the highest mortality rate was among men in their first year of service in the Command.

In Abstract X. will be found the principal statistics of sickness and mortality arranged according to the different groups and orders of diseases.

GENERAL DISEASES.—*Diseases dependent on Morbid Poisons.*—*Eruptive fevers* are represented by 2 cases of epidemic rose-rash and one of chicken-pox. *Enteric fever* caused 45 admissions and 5 deaths, being in the ratios of 15·2 and 1·69 per 1,000. The admission ratio is higher than that in the previous year by 12·0, and than the average ratio for the preceding five years by 11·5. The mortality rate also is higher in these comparisons by ·22 and ·39 respectively. The per-centage of mortality to attack was 11·1 as compared with 45·5 in the previous year, and with 34·8 the average of five years. The increase of prevalence of enteric fever is due chiefly to an epidemic of the disease which occurred in Pietermaritzburg in the latter part of the year. In Cape Colony there were only 2 cases, one at Cape Town and the other at Wynberg. Of the 43 cases in Pietermaritzburg, 15 occurred during the year prior to the epidemic outbreak in December, which continued into the following year and which chiefly affected the mounted corps. The disease does not appear to have been confined to Pietermaritzburg or its neighbourhood, but to have been generally prevalent throughout the Colony, though the civil population did not suffer proportionately so much as the troops. The Principal Medical Officer, Deputy Surgeon-General J. Colahan, M.D., remarks that it is very difficult to assign a satisfactory cause for this outbreak of enteric fever at Natal. The water supply was satisfactory in every respect, and the possibility of infection by milk is eliminated, as condensed milk only was used by the troops. The dry-earth system of conservancy is in force and was carefully attended to, and the strictest attention was paid to cleanliness and the maintenance of barracks and quarters in as good a sanitary condition as practicable. The Senior Medical Officer at Natal, however, remarks that the following may have had some influence on the production of the disease. The huts are chiefly made of unlined galvanised iron sheeting, too hot in summer; the verandah floors are chiefly earth difficult to keep clean, the stables are badly drained and too close to the lines. There are also several ditches choked up with jungle and containing stagnant water, the surface drainage also is defective. Recommendations on these points were, therefore, put forward, and sanitary defects were rectified as far as possible. The portion of the Fort inhabited by the Royal Scots Regiment, among whom comparatively few cases of enteric fever occurred, differs from that occupied by the mounted corps in that there are no stables or fort ditches in the vicinity; the contour of the ground is more regularly sloping, thus favouring better surface drainage, and it is free from scrubby jungle and is in consequence cleaner.

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Simple continued fever caused 110 admissions, being in the ratio of 37·2 per 1,000, which is higher than the corresponding ratio in the previous year by 4·2 and than the average rate of five years by 6·6. Of the cases, 83 occurred at Pietermaritzburg; they were, generally speaking, mild, and were attributed to climatic conditions. One case of sporadic *cholera* is returned; it occurred at Wynberg, and had a favourable termination.

Dysentery was the cause of 25 admissions and one death. The ratio of admission was 8·4 per 1,000, which is below the corresponding rate in the preceding year by 2·5. In Natal there were 16 cases, fourteen at Pietermaritzburg and two at Etshowe, one fatal; in Cape Colony there were 9 cases, four each at Cape Town and Simonstown, and one at Wynberg.

Influenza caused 15 admissions, or 5·1 per 1,000, twelve of the cases occurred in Cape Colony and three at St. Helena.

Malarial Fevers.—48 admissions are recorded, equal to a ratio of 16·2 per 1,000, which is above the last year's rate by 12·1, though only slightly above the average rate. Of the total number of cases, 42, three remittent fever and the remainder ague, occurred in Cape Town, chiefly among the men of the detachment 1st Battalion North Staffordshire Regiment, which arrived in the Command from Mauritius during the year, where they doubtless contracted the disease.

Septic diseases show 4 admissions for erysipelas, there was also a case of pyæmia treated on transfer from a troop ship.

Venereal Diseases.—The admissions for *primary syphilis* numbered 221, equal to a ratio of 74·6 per 1,000, which is below the corresponding rate in the previous year by 12·5. Of the cases, 164 were in Cape Colony and the remainder in Natal. Including the sickness from simple venereal ulcer, 38 admissions and 2·06 constantly sick, the admission ratio for primary venereal

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sores was 87·5 per 1,000, which shows a decrease of 7·5 from the last year's rate, and is below the average rate for the preceding five years by 59·6. The admissions for *secondary syphilis* numbered 148, the cases occurred throughout the Command, 67 in Cape Colony, 42 in Natal, 24 in Zululand, and 15 at St. Helena. The admission ratio, 50·0 per 1,000, is lower by 1·2 than the rate in 1889, and by 9·9 than the average rate. *Gonorrhœa* caused 198 admissions, 134 in Cape Colony, 59 in Natal, 2 in Zululand, and 3 at St. Helena. The ratio of admission equalled 66·9 per 1,000 as compared with 86·0 in the previous year, and with 104·7 the average rate for five years. Including all forms of venereal disease the total admission rate reached 204·4 per 1,000, which, however, is lower than the corresponding rate in the previous year by 27·8, and below the quinquennial average rate by as much as 107·3. The total amount of constant inefficiency on account of these diseases was equal to 16·29 men per 1,000, which differs only fractionally from the rate in 1889, but is below the average rate of five years by 6·30. In Cape Colony alone the admission ratio for all forms of venereal disease was 266·6 per 1,000, and the total ratio of constantly sick 20·80 per 1,000, as compared with 307·0 and 21·60 in the previous year, and with 623·0 and 44·54 respectively in 1883. This marked decrease is attributed to the introduction of a Contagious Diseases Act towards the end of the last-named year. In Natal and Zululand the admission and constantly sick rates were 144·3 and 12·25 per 1,000 respectively, as compared with 183·8 and 14·11 in 1889, and 135·4 and 10·55 in the previous year. It is stated that the Act is not in force in Natal.

Parasitic diseases caused only 4 admissions as compared with 16 in the previous year. Under the head of *alcoholism* 20 admissions are returned as compared with 23 in 1889. One of the admissions was for delirium tremens.

Debility gave an admission ratio of 16·2, which is lower than that in the preceding year by 3·5. Most of the cases occurred in Natal.

Rheumatism caused 116 admissions and 2 deaths, including one of an invalid who had left the Command. The admission ratio was 39·2 per 1,000, which is lower than the corresponding rate in the previous year by 8·5 and is also below the average rate. Among the cases treated were 4 of rheumatic fever.

Tubercular diseases were the cause of 5 admissions and one death, the admission ratio, therefore, was 1·7 and the death rate ·34 per 1,000, the former being slightly lower and the latter slightly higher than the corresponding rate in the previous year. Under the head of *other diseases* of this group are returned 16 admissions, 10 being cases of non-malignant growth, 3 of anæmia, and one of purpura, scrofula, and diabetes respectively. The deaths of two invalids after leaving the Command are also returned under this head, one from cancer and one from diabetes.

Local Diseases.—*Diseases of the nervous system* caused 25 admissions and one death. The admission ratio, 8·5 per 1,000, is about the average, though higher than in the preceding year by 1·4. The cases comprised 11 of neuralgia, 6 of paralysis, 5 of epilepsy, 2 of melancholia, and one of inflammation of the brain. The death was that of an invalid, and was returned as dementia.

Diseases of the eye were the cause of 52 admissions, equal to a ratio of 17·6 per 1,000, which is higher by 2·3 than that in the preceding year, but about the average rate of five years. 35 of the admissions were due to conjunctivitis. *Diseases of the ear* show 14 admissions, all of a simple character; the admission ratio, 4·7 per 1,000, has declined by 2·1 from that in the preceding year.

Diseases of the circulatory system caused 45 admissions, or 15·2 per 1,000, which is double the last year's rate and above the average rates. The cases included 35 of palpitation, 30 of which occurred in Natal, the remaining admissions were 4 for valve disease of the heart, and 6 for affections of the veins. There was one death in an invalid from valve disease of the heart.

Diseases of the respiratory system show 104 admissions and one death. The admission ratio, 35·1 per 1,000, is above the average rate and higher than the ratio in the preceding year by 6·8. Bronchial affections alone caused 80 admissions, and the remainder included 11 cases of pleurisy and 7 of pneumonia. The fatal case is returned under the head of hæmoptysis. *Diseases of the digestive system* caused 270 admissions and 3 deaths. The admission ratio, therefore, was equal to 91·2 per 1,000, which is higher than the corresponding

rate in the previous year by 14·4 and also above the quinquennial average rate. The principal causes of admission were affections of the mouth and throat 115 cases, and among the remainder were 63 of diarrhœa, 29 of dyspepsia, and 14 of hepatic disease. The deaths were due to enteritis, intestinal obstruction, and abscess of the liver one case respectively. *Diseases of the lymphatic and glandular system.*—63 admissions are returned, equal to 21·3 per 1,000, which is below the last year's rate by 3·4. *Diseases of the urinary system* caused 8 admissions, or 2·7 per 1,000, the ratio is almost identical with that in the previous year. 5 of the cases are returned as hæmaturia. *South Africa and St. Helena.*

Diseases of the generative system show 104 admissions, or 35·1 per 1,000, an increase of 9·2 on the last year's rate. The principal causes of admission were orchitis and simple venereal ulcer. *Diseases of the organs of locomotion* were the cause of 22 admissions, or 7·4 per 1,000, as compared with 5·0 in the previous year. *Diseases of the connective tissue* were at the rate of 26·7 per 1,000, a decrease of 1·6. *Diseases of the skin* gave a ratio of admission equal to 65·9 per 1,000, above the average rate, and above the rate in the previous year by 9·4. Ulcers, boils, and whitlows were the chief causes of admission.

Injuries.—The admissions for injury were 313 in number, and there were 7 deaths, including one of an invalid after leaving the Command. The admission ratio, 105·7 per 1,000, is in excess of that in 1889 by 8·2 and above the average rate of five years. There were 8 admissions under general injury, four for lightning stroke, two for sunstroke, one for the effects of heat, and one for multiple injury. Two deaths were due to multiple injury, one to sunstroke, one to drowning, a case of suicide, and one, that of an invalid, to drowning, the man having jumped overboard on voyage home whilst suffering from melancholia. The principal causes of admission for local injuries were wounds, contusions, and sprains. There were 2 deaths, both from gunshot wound and both suicidal.

Invaliding.—The number of men invalided home during the year was 108, equal to a ratio of 36·47 per 1,000, which, though higher than the corresponding rate in the previous year by 19·99, is lower than the average rate for the preceding ten years by 6·66. The invaliding ratio in the cavalry, the 6th Inniskilling Dragoons, was 57·85 per 1,000, that in the artillery 55·26, and that in the infantry 35·31, all of which are in excess of the corresponding ratios in the preceding year. As to the age of the men invalided it is observed that one man, or 10·0 per 1,000, was under 20 years of age; 51 men, or 39·20 per 1,000, were between 20 and 25 years of age; 43, or 35·22 per 1,000, were between 25 and 30 years; 9 men, or 42·06 per 1,000, were in the next quinquennium; and 4, or 32·00 per 1,000, were over that age. As to service in the Command, 36 men, or 34·35 per 1,000, were in their second year of service; 7 men, or 17·81 per 1,000, in their third year; 11 men, or 24·61 per 1,000, in their fourth year; and 54 men, or 93·59 per 1,000, were over four years' service in the Command. The principal causes of invaliding were constitutional syphilis 22 cases, or 7·43 per 1,000, palpitation 9 cases, rheumatism 8, debility 7, &c. The number of men finally discharged as medically unfit for further service was 68, or 22·97 per 1,000, which is higher than the corresponding rate in the previous year by 5·32, but is almost identical with the decennial average rate. The principal disabilities necessitating discharge were constitutional syphilis 15 cases, or 5·07 per 1,000, diseases of the circulatory system 9 cases, diseases of the nervous system 6 cases, including three of mental affections, diseases of the respiratory system 6 cases, and diseases of the digestive system 6 cases.

Officers.—The average strength was 144, there were 66 attacks of illness, no death occurred, and there were 4 officers invalided. The ratio of prevalence of sickness was 458·3 per 1,000, being lower by 9·2 than the corresponding rate in the preceding year. The principal causes of admission were simple continued fever and injuries. The causes of invaliding were debility 2 cases, and heart disease and asthma one case respectively.

Women.—The average strength was 192, and there were 47 cases of illness and 2 deaths. The ratio of prevalence of sickness was 244·8 per 1,000, which is in excess of that in the previous year by 65·1. The principal causes of sickness were debility, disorders of the generative system, and fevers, including one case of enteric fever at St. Helena, which proved fatal. The other death was due to tubercular disease of the lungs.

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Children.—The average strength is returned as 369, and the number of cases of illness 44, and there were 7 deaths. The ratio of prevalence of sickness was, therefore, 119·2, and that of mortality 18·97 per 1,000, as compared with 199·5 and 32·02 respectively in the previous year. Among the cases treated were 7 of diarrhœa, 5 of respiratory affections, 3 of simple continued fever, 1 of enteric fever, and 1 of scarlet fever. The deaths were 2 from meningitis, and 1 from debility, tubercle, convulsions, diarrhœa, and jaundice respectively.

Sanitary Conditions.—The Principal Medical Officer reports that the sanitary condition of the various barracks and camps was carefully attended to, and was fairly satisfactory. Every effort was made to keep the vicinity of the barracks, &c. in a good sanitary condition, and to remedy, as far as possible, all defects which may have been observed.

At Cape Town the intercepting sewer in the vicinity of the station hospital intended to convey the sewage from the town further out into the bay was completed, and the offensive smells formerly complained of have since caused very little inconvenience. The scheme which was proposed for the general drainage of Cape Town has not yet been realised but fresh plans, have, it is believed, been put forward. At Simonstown no efficient measures had been taken to remedy permanently the insanitary condition of the locality termed the Brook, though temporary improvement has been effected when attention has been called to it. With regard to the barracks in Cape Colony it is stated that the main barracks in Cape Town are much out of repair and are situated in an insanitary neighbourhood, and several requirements are mentioned. The Castle barracks are surrounded by a dry moat, and on two sides of it are open drains which, although only intended for storm water, are at times objectionable. The Castle drainage is defective, and was laid down when sanitary science was in its infancy; a scheme has been under consideration for remodelling the entire system, but on account of the large expense involved in carrying it out there is hesitation in sanctioning it. At Wynberg the sanitary condition of the camp is very good, but the bath accommodation to the huts is said to be insufficient. At Simonstown the barracks are old and difficult to keep in a sanitary condition. At Wynberg 14 officers' quarters, 2 barrack huts, with latrines, additional married quarters, and a large laundry and drying-room were added during the year; all are well built and comfortable. At Etshowe a permanent cookhouse was constructed, and minor services were carried out. The troops were withdrawn from the station of Entonjaneni in March, and a small station at Inklandla, about 25 miles from Etshowe, was opened in November.

The water supply at the different stations was generally of good quality, but at Etshowe it was liable to pollution at the source of supply by surface washing; it is, however, filtered through charcoal in barrel filters before being used for drinking purposes.

It is reported that the rations for the troops were generally good and well cooked, but at Etshowe vegetables are scarce, and preserved vegetables, which are not much liked, have to be issued.

With regard to clothing it is said to have been good, but it is too warm for summer wear, especially in Natal, and a serge coat of light texture, made loose, for use in the warm weather is said to be desired. The medical officer at Etshowe recommends waterproof boots and coats for the use of stable picquets during the wet weather.

IX.—ON THE HEALTH OF THE TROOPS SERVING IN THE ISLAND OF MAURITIUS.

Sickness and Mortality.

Mauritius.

The average strength of warrant officers, non-commissioned officers and men was 516, and the force was composed as follows:—No. 4 Battery, Southern Division, Royal Artillery; detachment Royal Engineers; detachment 1st Battalion North Staffordshire Regiment, until 18th September, when it was relieved by the headquarters of the same regiment; detachments Army Service Corps, Ordnance Store Corps, and Medical Staff Corps; and Garrison Staff.

In the subjoined table will be found the most important of the statistics of sickness and mortality among the troops:—

1890. Average Strength.	Admissions.	Deaths			Invalids		Average daily Sick.	Ratio per 1,000 of Strength.				
		In the Command.	Of Invalids.	Total.	Sent Home.	Finally Discharged.		Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.
516	816	7	—	7	46	12	47·14	1581·4	13·57	89·15	23·25	91·36

Compared with corresponding ratios in the previous year there is an increase of 192·1 per 1,000 in the admission rate, one of 5·94 in the death rate, and one of 4·93 in the ratio of constantly sick; but compared with average similar ratios for the preceding ten years the admission rate has declined by 290·7, and the death rate by 1·12, though the rate of constant inefficiency through sickness has increased by 6·49. The average sick time to each soldier was 33·35 days, which is longer than the corresponding period in the previous year by 1·80 days, and than the average period for the preceding ten years by 2·37 days. The average duration of each case of sickness was 21·09 days, which is shorter than in 1889 by 1·62 days, but longer than the decennial average period by 4·54 days.

In Abstract XL. are shown the statistics of sickness and mortality in individual corps. In the Artillery the admission and constantly sick rates were 2045·4 and 137·56 per 1,000 respectively, being higher than the corresponding rates in the previous year by 316·0 and 52·10. In the infantry the admission rate, 1582·6 per 1,000, shows an increase of 169·5, but the constantly sick rate, 86·58 per 1,000, shows a decline of 6·06. Of the deaths, 3 occurred in the artillery, 2 in the engineers, and 2 in the infantry.

With regard to the effect of age on sickness and mortality, it is found that the admission rate among men between 20 and 25 years of age was 1710·3 per 1,000, being lower than in the previous year; the ratio among men between 25 and 30 years of age was 1660·4, and that among men over 30 years 500·0 per 1,000, both of which are in excess of the corresponding rates in the previous year. The death rate among men between 20 and 25 years of age was 3·97 per 1,000, that among men between 25 and 30 years 23·58, and that among men over 30 years of age 21·74 per 1,000. As to length of service in the Command it is found that the ratio of admission among men in their first year of service was 1216·9 per 1,000, and that among men in their second year 1862·7 per 1,000, the former being below but the latter above the corresponding rate in the previous year. Of the deaths 5, or 26·45 per 1,000, were

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among men in their first year of service in the Command, and 2, or 6·53 per 1,000, in their second year.

In Abstract XI. will be found the chief statistics of sickness and mortality arranged according to the different groups and orders of diseases.

GENERAL DISEASES.—*Diseases dependent on Morbid Poisons.—Eruptive fevers* were represented by a single case of scarlet fever, said to have been imported. *Enteric fever* caused 8 admissions and one death. The admission ratio, 15·5 per 1,000, has increased by 9·8 as compared with the rate in the previous year, and is above the average rate of five years by 10·8 per 1,000. Of the cases 7 came from Port Louis, but all were treated at Curepipe. With regard to causation, Brigade Surgeon C. A. Maunsell, Senior Medical Officer, remarks that it is obviously due to the insanitary condition of barrack surroundings and soil pollution, with its concomitant water contamination. It is said that enteric fever is on the increase among the troops, and exists also to a greater extent than formerly amongst the civil population. *Dysentery* was the cause of 4 admissions, or 7·8 per 1,000, as compared with 17·2 in the previous year. Three of the cases were treated at Curepipe, and one, which proved fatal, at Port Louis. The remaining 3 admissions in this sub-group were cases of influenza; the disease was prevalent among the civil population.

Malarial Fevers.—352 admissions are returned, being in the ratio of 682·2 per 1,000, which is lower by 18·2 than the corresponding rate in the previous year, and below the average rate of five years. Of the total number of cases treated 268 were ague and 84 remittent fever. The Senior Medical Officer remarks that the chief cause of malarial fever amongst the troops is residence in Port Louis; this is obviated as much as possible by relieving the infantry at that place every month.

Septic Diseases.—Under this head a single case of erysipelas is returned.

Venereal Diseases.—24 admissions are shown for *primary syphilis*, equal to a ratio of 46·5 per 1,000, which is higher by 16·0 than the corresponding rate in the previous year. Including the sickness from simple venereal ulcer, the ratio of admission for primary venereal sores was 102·7 per 1,000, which is higher than in the preceding year by 1·6, but lower than the average rate for the previous five years by 9·6. *Secondary syphilis* caused 17 admissions, or 32·9 per 1,000, an increase of 10·0 on the last year's rate, and of 4·3 on the quinquennial average rate. The admissions for *gonorrhœa* numbered 63, equal to 122·1 per 1,000, which is below the ratio in 1889 by 76·4, and below the average rate by 14·0. Including all forms of venereal disease, the total admission ratio was equal to 257·7 per 1,000, which is lower than the corresponding rate in the previous year by 64·8, and than the average rate of five years by 19·3. The total amount of constant inefficiency on account of these diseases was equal to 19·17 per 1,000, which is below the last year's rate by 5·75, and fractionally below the average rate.

Parasitic diseases.—As in the preceding year, 3 admissions are shown, all cases of tænia solium. Under the head of *debility* only 2 admissions are recorded as compared with 4 in the preceding year.

Rheumatism was the cause of 16 admissions, being in the ratio of 31·0 per 1,000, which is higher than in the previous year by 17·6, and rather above the average rate of five years. Among the cases treated was one of rheumatic fever. The Senior Medical Officer remarks that it is noteworthy that in the exceedingly moist climate of Curepipe so few cases of rheumatism occur; this may be due to a residence in wooden huts, which are well raised above the ground.

The remaining admissions in this group were 5 cases of papilloma.

LOCAL DISEASES.—*Diseases of the Nervous System* caused 7 admissions, equal to 13·6 per 1,000, which is about the average rate of five years, though higher than the last year's rate by 2·1. *Diseases of the Eye* show 9 admissions, or 17·4 per 1,000, which is higher than the rate in the preceding year; most of the cases were conjunctivitis. There were also 9 admissions for *aural diseases*, which gave an increase in ratio. *Diseases of the circulatory system* caused 10 admissions, equal to a rate of 19·4 per 1,000, almost identical with the last year's rate, but below the average. Of the cases treated, 8 were palpitation, one was valve disease of the heart, and one phlebitis. There was one death from pericarditis. *Diseases of the respiratory system.*—15 admissions are shown, or

29·1 per 1,000, which is much higher than the previous year's rate, and also above the average. The cases treated were 2 of pneumonia, 2 of pleurisy, and the remainder bronchitis. *Diseases of the digestive system* caused 69 admissions and one death. The admission rate, 133·7 per 1,000, is in excess of the rate in the preceding year by 70·7, and is also above the average rate. The principal causes of admission were affections of the mouth and throat 19 cases, hepatic disease 13, and hernia 11 cases. The death was due to abscess of the liver. *Diseases of the lymphatic and glandular system.*—The admissions were 42, and the ratio 81·4 per 1,000, an increase of 29·9 on the last year's rate. *Urinary diseases* caused 4 admissions only, while *diseases of the generative system* caused 41 admissions, or 79·5 per 1,000, an increase of 7·0 on the last year's rate. *Diseases of the the organs of locomotion* gave 3 admissions, and *diseases of the connective tissue* 9, as compared with 4 and 14 in the previous year. *Cutaneous affections* caused 38 admissions, or 73·7 per 1,000, an increase of 48·9 on the rate in the previous year and considerably above the average rate. *Mauritius.*

Injuries.—61 are returned, with three deaths. The ratio of admission, 118·2 per 1,000, is in excess of that in the preceding year by 45·7, and above the average rate. Under the head of general injury there were three admissions for sunstroke, one of them fatal; there was also a death from accidental drowning. The local injuries were nearly all contusions, wounds, and sprains. There was one death from gunshot wound, suicidal, while in a state of mental depression.

Invaliding.—The number of men invalided to England during the year was 46, being in the ratio of 89·15 per 1,000, which is above the corresponding rate in the preceding year by 73·88, and above the average rate for the previous ten years by 43·55. Of the men invalided, 16, or 181·2 per 1,000, belonged to the artillery; 2, or 74·07 per 1,000, to the engineers; 25, or 65·62 per 1,000, to the infantry, and 3 to departmental corps. With regard to age, 26 men, or 103·2 per 1,000, were between 20 and 25 years of age; 16, or 75·5 per 1,000, between 25 and 30 years, and 4, or 86·9 per 1,000, were over 30 years of age. As to the service in the Command, 9 men, or 47·62, were in their first year of service; 35, or 114·38 per 1,000, in their second year; and 2, or 181·82 per 1,000, in their third year. The principal causes of invaliding were malarial fevers 24 cases, or 46·51 per 1,000, nervous diseases 4 cases, diseases of the digestive system 4, and affections of the circulatory system 3 cases. The number of men finally discharged by invaliding during the year was 12, being in the ratio of 23·25 per 1,000, above the last year's rate by 19·43, and above the decennial average rate by 8·05. The principal disabilities necessitating discharge were debility 3 cases, and diseases of the circulatory system 3 cases.

Officers.—The average strength was 27, and there were 17 cases of illness. The ratio of prevalence of sickness, therefore, was 629·6 per 1,000, which exceeds the rate in the preceding year by 486·8. Of the cases of sickness 7 were malarial fever. Three officers were invalided, one for debility after enteric fever, cataract, and nephritis respectively.

Women.—The average strength was 33, and the cases of sickness 12. The ratio of prevalence of sickness, 363·6 per 1,000, has declined from that in the previous year by 723·3. Malarial fevers were the chief cause of sickness.

Children.—The average strength is shown as 49, and there were 17 cases of sickness. The ratio of prevalence of sickness, 346·9 per 1,000, only differs from that in the previous year by a decrease of 6·0. Of the cases treated 12 were remittent fever. No death occurred.

Sanitary Conditions.—The Senior Medical Officer reports that during the unhealthy season the Line barracks were abandoned as a quarter for the troops, who now in great measure occupy the more healthy situation of Curepipe. The unhealthiness of the Line barracks is due in part to the surroundings, and in part to inherent local conditions of subsoil and drainage. In the dry months, however, these barracks are fairly healthy. At Fort George the subfloors of many of the barrack rooms have been concreted, ventilation has been improved, the coral sand removed from the roof of some of the casemates, and the water pipes have been relaid. The sanitary condition of the citadel has been much improved by cutting windows in the end of the casemate barracks; some improvement was also made in the officers' quarters in

Mauritius. the way of ventilation. At Curepipe the barracks and buildings were kept in good order. New barracks, constructed of brick, are being built. A complete sewerage system is also being developed, and it is said will be the first instance in the Colony of the rapid removal of sewage. The dry-earth system will also be continued in the camp where it is well carried out.

The potable water is supplied from a well; it is of good quality, as has been proved by repeated analysis; it is also filtered before delivery in case of the occurrence of occasional pollution. The filtered water is laid on to four huts and to the hospital, but steps are being taken to have it laid on to all the huts. With regard to the hospital the Senior Medical Officer states that the verandahs are so low that they render the wards dark; that the kitchen is not commodious enough, and that hot water should be laid on to the baths. A barrack room is used as an auxiliary hospital so that there is now no over-crowding. A new hospital, to contain 24 beds, is in the course of construction.

X.—ON THE HEALTH OF THE TROOPS SERVING IN THE ISLAND OF CEYLON.

Sickness and Mortality.

I.—White Troops.

The average strength of warrant officers, non-commissioned officers, and men was 1,028. The force comprised the 33rd and 43rd Batteries, Southern Division, Royal Artillery; the 1st Battalion Gordon Highlanders; detachments of Royal Engineers, Ordnance Store Corps and Medical Staff Corps; and Garrison Staff. Drafts for the artillery and for the infantry regiment arrived from England in the month of January. The distribution of the force was as follows:—The headquarters and six companies of the infantry battalion and one battery of artillery at Colombo, one company of infantry at Kandy, and one battery of artillery and one company of infantry at Trincomalee.

In the subjoined table will be found the more important of the health statistics of the troops in the Command:—

1890. Average Strength.	Admissions.	Deaths			Invalids		Average daily Sick.	Ratio per 1,000 of Strength.				
		In the Command.	Of Invalids.	Total.	Sent Home.	Finally Discharged.		Admissions.	Deaths.	Invalids Sent Home.	Invalids finally Discharged.	Constantly Sick.
1,028	867	7	3	10	35	24	55·80	843·4	9·73	34·04	23·34	54·28

Comparing these results with those of the preceding year, a decrease of 330·2 has occurred in the ratio of admissions, one of 7·72 in the ratio of deaths, and one of 12·52 in that of constantly sick. Compared with the average similar ratios for the preceding ten years the admission rate is lower by 354·6, the death rate by 4·64, and the constantly sick rate by 10·17. The average sick time to each soldier was 19·81 days, being shorter than the corresponding period in the previous year by 4·57 days, and than the similar average period for the preceding ten years by 3·71 days. The average duration of each case of sickness was 23·49 days, which is longer than in the previous year by 2·71 days, and than the decennial average period by 3·86 days.

In Abstract XL. will be found the chief statistics of particular corps. In the artillery the admission ratio for the 33rd Battery, Southern Division, was 1036·1 and the constantly sick rate 51·20 per 1,000, and in the 43rd Battery, the former was 739·6, and the latter 49·48; these batteries were each half the year at Colombo and half at Trincomalee. The admission ratio for the artillery was 862·6, that for the engineers 843·7, and that for the infantry 854·8 per 1,000. The death rate in the artillery was 16·48, in the engineers *nil*, and in the infantry 7·65 per 1,000, and the constantly sick rates in these three arms of the service were 49·45, 27·50, and 56·48 per 1,000 respectively. Compared with corresponding ratios in the previous year a general decrease is observed.

The admission ratio among men under 20 years of age was 833·3 per 1,000, that among men between 20 and 25 years of age 842·9, that among men in the next quinquennium 908·3, and that among men over 30 years of age 586·9. The death rate among men under 20 years was *nil*, among men between 20

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and 25 years of age it was 7·39, among men between 25 and 30 years of age it was 2·69, and among men over that age 21·74 per 1,000. All the foregoing ratios compare favourably with the corresponding rates in the preceding year. The admission rate among men in their first year of service in the Command was 460·8 per 1,000, among men in their second year it was 914·6, among men in their third year it was 954·1, and among men over three years' service 640·3. Compared with corresponding ratios in the previous year an increase is observed in the admission ratio of men in their second year of service in the Command, but a decrease has occurred in the remainder. The mortality rate among men in their first year's service in the Command was 9·80 per 1,000, that among men in their second year 7·11, that among men in their third year *nil*, and that among men over three years' service 8·77. In the preceding year all the corresponding ratios were higher, and among them the highest rate was among men in their third year of service.

In Abstract XII. will be found the principal statistics of sickness and mortality arranged according to groups and orders of diseases.

General Diseases.—*Diseases dependent on Morbid Poisons.*—Under the head of *eruptive fevers* two admissions are returned; they were cases of dengue and occurred at Colombo. *Enteric fever* caused 5 admissions and 1 death, being in the ratios of 4·9 and ·97 per 1,000, which are lower than the corresponding ratios in the preceding year by 9·1 and 6·88, and below the average ratios for the previous five years by 6·0 and 4·50 resnectively. The per-centage of mortality to attack was 20, as compared with 56 in the preceding year, and 50, the average of five years. Of the cases, 3, one being fatal, occurred at Colombo, 1 at Kandy, and 1 at Trincomalee. Of the cases which occurred at Colombo, two came from the block of barracks near the lake, which the Senior Medical Officer, Brigade Surgeon W. C. Robinson, remarks is in a very bad condition, and during the periods of drought the banks, composed of filthy mud, become greatly exposed to the heat of the sun; the fatal case came from the block in question. The third case could not be traced to any insanitary condition of the quarters. In the case at Kandy the disease is believed to have been contracted in the military prison at that station through drinking water from a well which was contaminated; this well was since closed. In the case at Trincomalee it is stated that no cause could be ascertained. It is stated that it came from hired quarters.

Simple continued fever was the cause of 62 admissions, being in the ratio of 60·3 per 1,000, which is lower than in the previous year by 25·2, and below the corresponding average rate for the preceding five years. The majority of the cases were of a mild nature, a good many of them occurring amongst men recently arrived from home.

Dysentery was the cause of 25 admissions, equal to a ratio of 24·3 per 1,000, an increase of 5·1 on the previous year's rate. Of the cases 21 occurred at Colombo, 3 at Trincomalee, and 1 at Kandy.

Malarial Fevers.—Only 12 admissions are returned, being in the ratio of 11·7 per 1,000, which is below the rate in the preceding year by 19·7, and below the quinquennial average rate by 17·6. Of the cases treated, 10 were ague and 2 remittent fever. As in the previous year, most of the admissions occurred in Trincomalee.

Venereal Diseases.—There were 76 admissions for *primary syphilis*, equal to a ratio of 73·9 per 1,000, which has increased by as much as 45·1, as compared with the corresponding rate for the previous year. Including the sickness from simple venereal ulcer, the ratio of admission for primary venereal sores was 104·1 per 1,000, which is lower than that in the preceding year by 105·3, and below the average rate for the preceding five years by 84·2. *Secondary syphilis* was the cause of 102 admissions, being in the ratio of 99·2 per 1,000, which is in excess of the rate in the preceding year by 47·7, and above the quinquennial average rate by 62·4. *Gonorrhœa* caused 84 admissions, being in the ratio of 81·7 per 1,000, which is lower than the corresponding rate in the previous year by 48·3, and below the average rate of five years by 74·9. Including all forms of venereal disease, the total admission ratio was 285·0 per 1,000, which, compared with the last year's rate, shows a decline of 105·9, and compared with the quinquennial average rate one of 96·7. The total amount of constant inefficiency on account of these diseases was equal to 20·31 per 1,000, less than in 1889 by 3·51, and below the average by 3·44.

Under the head of *alcoholism* 5 admissions are returned, as compared with 2 in the previous year. 28 admissions are recorded for *debility*, equal to a ratio of 27·2 per 1,000, which shows a decline of 7·7. *Ceylon.*

Rheumatism caused 43 admissions, the ratio being 41·8 per 1,000, which is lower than the corresponding rate for the preceding year by 4·4, but above the average rate of five years. *Tubercular diseases* caused 5 admissions and 3 deaths, of invalids, being in the ratios of 4·9 and 2·92 per 1,000, as compared with 4·4 and 1·75 in the previous year. All the cases were due to lung affection. *Other diseases* of this group comprised 8 cases of scrofula, and 3 of non-malignant new growth.

Local Diseases.—*Diseases of the nervous system* caused 18 admissions and 2 deaths, being in the ratios of 17·5 and 1·95 per 1,000. The admission rate differs only fractionally from that in the previous year, but is above the average rate for five years. Among the cases treated were 6 of epilepsy and 3 of insanity. One of the deaths was due to meningitis and the other to paralysis.

Diseases of the eye caused 16 admissions, or 15·6 per 1,000, as compared with 14·8 in the previous year. Of the admissions 14 were for conjunctivitis. There were 3 admissions for *diseases of other organs of special senses*, two for epistaxis, and one for aural disease.

Diseases of the circulatory System.—12 admissions are recorded, being in the ratio of 11·7 per 1,000, which is higher than in the preceding year by 4·7, and above the average. Of the cases treated 9 were palpitation, 2 valve disease, and 1 varix.

Diseases of the respiratory system were the cause of 29 admissions, being in the rate of 28·2 per 1,000, above the average rate and in excess of the last year's rate by 1·1. Of the admissions as many as 24 were for bronchial affection.

Diseases of the digestive system caused 70 admissions. The ratio of admission, 68·1 per 1,000, differs from that in the previous year only by a decrease of 1·7, but it is considerably below the average rate. The principal causes of admission were affections of the mouth and throat 16 cases, diarrhœa 15, and hepatic disease 20 cases. No death occurred.

Diseases of the lymphatic and glandular system caused an admission rate of 38·9 per 1,000, being less than a third of the corresponding rate in the previous year. *Urinary diseases* were represented by a single case of renal calculus. *Diseases of the generative system* were at the rate of 49·6 per 1,000, which is not a fourth of the ratio of admission in the preceding year. This is due to the decrease in prevalence of simple venereal ulcer, the admissions having fallen from 207 to 31.

Diseases of the organs of locomotion gave 9 admissions, or 8·7 per 1,000, a decrease of 7·0; all the admissions but one were for synovitis. The ratio of admission for *diseases of the connective tissue* was 15·6 per 1,000, a decline of 7·1 from the last year's rate. *Diseases of the skin* caused an admission rate of 52·5 per 1,000, lower by 45·2 than the rate in the previous year, and a good deal below the average rate. More than half the admissions were for boils.

Injuries.—The admissions were 86 and deaths 4. The admission ratio, 83·7 per 1,000, is lower than in the preceding year by 5·3, and is below the average. Four cases of general injury are shown, three being sunstroke and one multiple injury. There was one death from heat apoplexy and one from hanging, a case of suicide. The chief causes of admission for local injury were wounds, sprains, and contusions. Two deaths occurred, one from gunshot wound, suicidal, while in a state of temporary insanity, and the other from fracture of the sixth cervical vertebra with displacement, due to a fall while under the influence of drink.

Invaliding.—The number of men invalided home was 35, being in the ratio of 34·04 per 1,000, which is higher than the corresponding rate in the preceding year by 11·35, but differs only fractionally from the average rate for the previous ten years. The highest ratio of invaliding in any particular corps was 84·34 per 1,000, in No. 33 Battery, Southern Division, Royal Artillery, and the lowest, 29·30, in the 1st Battalion Gordon Highlanders. 14 of the men invalided or 25·88 per 1,000, were between 20 and 25 years of age; 15, or 40·43 per 1,000

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were between 25 and 30 years of age; and 6, or 65·21 per 1,000, were over 30 years of age. With regard to service in the Command, 26 men, or 36·98 per 1,000, were in their second year of service; 3 men, or 27·52 per 1,000, were in their third year; and 6 men, or 52·63 per 1,000, were over three years' service in the Command. The principal causes of invaliding were debility 9 cases, tubercular disease of the lungs 4, mental disease, constitutional syphilis, and synovitis 3 cases each, epilepsy 2 cases, and scrofula 2 cases. The number of men finally discharged the service by invaliding during the year was 24, being in the ratio of 23·34 per 1,000, which is in excess of the corresponding rate in the previous year by 12·87, and above the decennial average rate by 9·47. The principal disabilities necessitating discharge were diseases of the nervous system 5 cases, including 3 of mental affection, constitutional syphilis 5, debility 4, and diseases of the organs of locomotion 3 cases.

Officers.—The average strength was 49, the number of attacks of illness was 22, there was no death, and one officer was invalided. The ratio of prevalence of sickness was 449·0 per 1,000, an increase of 150·7 on the corresponding rate in the preceding year. The principal causes of sickness were fevers, dysentery, and hepatic affections. The case invalided was one of dysentery.

Women.—The average strength was 56, and there were 79 attacks of illness, the sick ratio, therefore, was 1410·7 per 1,000, considerably in excess of the rate in the preceding year, but no death occurred. The chief causes of sickness were debility, fevers, and diseases of the generative system.

Children.—The average strength is shown as 85, the number of cases of sickness 68, and of deaths 11. The ratio of prevalence of sickness was 800·0 and that of mortality 47·06 per 1,000 as compared with 434·8 and 32·61 per 1000. The principal causes of sickness were fevers, debility, conjunctivitis, and diarrhœa. The deaths were due to bronchitis, pneumonia, teething, and tubercular disease of the intestine.

Sanitary Conditions.—The Senior Medical Officer reports that the health of the troops during the year was very good. The general sanitary condition of the barracks is said to be very satisfactory owing to recent improvements in drainage, &c. Some places in the vicinity of barracks were not found to be as clean as they should be, but steps were taken to remedy this. Some complaints were made in the course of the year of the brackish and precarious nature of the water supply at Trincomalee, but it is said that measures are being adopted for the storage of rain water in tanks, which has already been carried out at Fort Ostenberg. The well in the military prison at Kandy was found to be contaminated; it was, therefore, closed, and the supply of water obtained from the municipal mains, which is about to be supplied to the hospital and barracks. The acccommodation in barracks was good, and some new barracks were in course of erection for Europeans at Trincomalee and for Gun Lascars at Colombo.

The sanitary improvements completed during the year included the following:—The married staff sergeants' quarters were retiled and repaired generally. The drains were much improved; surface drains being substituted for underground pipes, and many old surface drains were reconstructed and cemented. The infant school at Galle was converted into a guard-room for the guard furnishing sentries at the Galle Face battery and hospital, and the room vacated by the guard in the hospital was equipped with two beds for the treatment of Gun Lascars. Owing to insufficient accommodation in the kitchen of some married quarters, two stoves with ovens were put up which meet requirements. At Kandy the drain at married quarters was extended and cemented. The canteen was re-appropriated as married quarters, and the temporary theatre as a recreation and reading room. The barrel drains in barracks were replaced by surface ones.

At Trincomalee the surface drainage is being extended and improved.

There was no alteration in the scale of diet; the rations and the cooking were good. The clothing was good and suited to the climate.

II.—Black Troops.

Ceylon.

The black troops consisted of one company Ceylon Gun Lascars, the average strength of which was 99, and the Ceylon Submarine Mining Company, Royal Engineers, with an average strength of 39. Total average strength, 138. The Gun Lascars are distributed between Colombo and Trincomalee, and the Engineers are quartered at the latter station.

The admissions into hospital were 119 in number, equal to a ratio of 862·3 per 1,000, as compared with 838·2 in the previous year. The average number constantly sick was equal to 18·19 per 1,000, an increase of ·47 on the last year's rate.

The principal causes of admission were fevers, debility, conjunctivitis, ulcers, boils, contusions, and wounds. One death occurred from hydrophobia, and two men were invalided on account of rheumatism, and the other on account of deafness.

XI.—ON THE HEALTH OF THE TROOPS SERVING IN CHINA.

Sickness and Mortality.

I.—White Troops.

China.

The average strength of the troops serving in the Command was 1,346. The force consisted of two batteries of artillery, the 10th Battery, Southern Division, throughout the year, and the 14th Battery to the 12th February, being then relieved by the 30th Battery; the 1st Battalion Argyll and Sutherland Highlanders; detachments Royal Engineers, Medical Staff Corps, Ordnance Store Corps; and Garrison Staff throughout the year, and a detachment 2nd Battalion Northamptonshire Regiment from the 1st January to the 12th February, when it left for Singapore.

The subjoined table gives the principal statistics of sickness and mortality among these troops :—

1890. Average Strength.	Admissions.	Deaths			Invalids		Average daily Sick.	Ratio per 1,000 of Strength.				
		In the Command.	Of Invalids.	Total.	Sent Home.	Finally Discharged.		Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.
1,346	1,688	10	8	13	34	25	69·40	1254·1	9·65	25·26	18·57	51·56

Compared with corresponding ratios in the previous year an increase of 182·2 per 1,000 has occurred in the ratio of admission, and one of 2·67 in the death rate, while there is a decrease of 1·82 in the ratio of constantly sick. Compared with similar average ratios for the preceding ten years the admission rate is increased by 216·1, but in the mortality rate and in the rate of constant inefficiency a fractional decline is observed in each case. The average sick time to each soldier was 18·82 days, which differs only by a fraction of a day from the corresponding period in the previous year, and from the average period in the preceding ten years. The average duration of each case of sickness was 15·00 days, which is shorter than the similar period in the previous year by 3·18 days, and than the decennial average period by 3·34 days.

In Abstract XL. will be found the more important of the health statistics of arms of the service and individual corps. In the artillery the admission rate has decreased by 405·3 per 1,000, the death rate by 1·39, and the constantly sick rate by 28·86. Of the batteries, the highest annual admission and constantly sick rates were 1076·9 and 58·46 per 1,000 in the 14th Battery, Southern Division, and the death rate in the 30th Battery, Southern Division. In the Royal Engineers there was a decrease of 225·9 in the admission rate, one of 16·79 in the death rate, and one of 10·71 in that of constantly sick. In the infantry on the contrary, an increase is observed in all these ratios, being 383·0 in the case of admission, 3·53 in that of mortality, and 5·88 in that of constant inefficiency.

Taking sickness and mortality according to age, it is found that the admission rate of men under 20 years of age was 1533·3 per 1,000, that among men between 20 and 25 years of age 1253·3 per 1,000, that among men between 25

and 30 years 1299·3, that among men in the next quinquennium 986·1, and that among men over that age 827·6 per 1,000. In the previous year also the admission rate generally decreased with age. There was no mortality among men under 20 years, among men between 20 and 25 years the rate was 4·37 per 1,000, among men between 25 and 30 years 7·57 per 1,000, among men in the next quinquennium 27·78, and among men over that age 34·48 per 1,000. In the preceding year also the rate of mortality increased in each period of age. With regard to length of service in the Command the admission ratio among men in their first year was 1258·8 per 1,000, that among men in their second year 1437·9, that among men in their third year 535·7, and that among men over three years' service in the country 1065·2 per 1,000. In the year 1889 the admission rate decreased with length of service in the country up to the third year, after which it increased. The death rate among men in their first year of service in the country was 12·78 per 1,000, that among men in their second year 6·32, and that among men in their third year 5·10 per 1,000; in the previous year the highest ratio of mortality was among men in their second year of service. *China.*

In Abstract No. XIII. will be found the principal statistics of sickness and mortality, arranged according to the different groups and orders of diseases.

General Diseases.—*Diseases dependent on Morbid Poisons.*—No case of eruptive fever occurred during the year, neither was there a single case of *enteric fever;* this was the third year in which there was such immunity. The only admissions in the 1st sub-group of general diseases were 13 cases of *dysentery*, which were in the ratio of 9·6 per 1,000; this rate is lower than that in the previous year by 18·3, and than the average rate for four years by 9·5. The Principal Medical Officer, Deputy Surgeon-General H. L. Paterson, states that the decrease in prevalence of dysentery is probably due to the improved water supply. One death took place from this disease in the person of an invalid after leaving the Command.

Malarial fevers caused 799 admissions and 1 death. The admission rate, therefore, was 593·6 per 1,000, which is in excess of the corresponding rate in the previous year by 269·6, and than the average rate for the previous five years. The total inefficiency on account of these fevers was equal to 13·04 per 1,000 as compared with 8·62 in the preceding year. The Principal Medical Officer remarks that "probably the most important item in the statistical tables is the "large number of admissions for malarial fever, which can be only partially "explained. It will be observed that there is no entry for simple continued "fevers, this being probably due to the great care observed in recording the "temperature of patients, with the result that many cases are clearly shown to "be of periodic type and malarious origin, which were formerly classed under "the head of simple continued fever. Though malarial fevers were so very "numerous during the year, they were, as a rule, of a very mild type, and "were generally in hospital for only a short time. Many of them were recur-"rences of quotidian ague, swelling the return, but not to the same extent "the total number of individuals attacked. There were few cases of the old "severe type of fever. I would specially mention that, owing to the excava-"tions and deep cuttings connected with the new scheme of complete drainage "for Victoria, subsoil and disintegrated granite have been for weeks exposed "in the vicinity of barracks and over a great part of the station, and are so "still; but at the time of writing there are only two cases of malarious fever "in hospital." Of the total number of cases treated, 590 were returned as ague, 196 as remittent fever with one death, and 13 as malarial cachexia.

Venereal Diseases.—The admissions for *primary syphilis* were 35 in number, the ratio being 26·0 per 1,000, as compared with 25·8 in the preceding year. The admissions for simple venereal ulcer were 148, or 109·9 per 1,000, which is lower than the last year's rate by 18·6. Including both the foregoing, the admission ratio for primary venereal sores was 135·9 per 1,000, a decrease of 18·4 from the corresponding rate in the previous year, and above the average rate for the preceding four years by 34·8. *Secondary syphilis* caused 50 admissions and 1 death; the admission ratio, therefore, was 37·2 per 1,000, as compared with 50·3 in the previous year, and with 45·6, the average rate. *Gonorrhœa* was the cause of 171 admissions, or 127·0 per 1,000, a decline of 22·2 from the rate in the previous year, but above the average rate by 21·5.

China.

Including all forms of venereal disease, the total admission ratio amounted to 301·0 per 1,000, which is lower than in 1889 by 9·3, and above the average rate by 47·9. The total amount of constant inefficiency on account of these diseases was 21·52 per 1,000, which differs only fractionally from the corresponding rate in the previous year, and compared with the average rate shows an increase of 3·19.

Alcoholism caused 4 admissions, as compared with 11 in the preceding year. One of the admissions was for delirium tremens.

Debility caused 28 admissions, or 20·8 per 1,000, a decrease of 6·4 from the the rate in the previous year.

Rheumatism.—22 admissions are returned, being in the ratio of 16·3 per 1,000, which is about the average rate, though below the rate in the previous year. The total absence of rheumatic fever is worthy of note as this disease had been of common occurrence during recent years.

Tubercular diseases caused 5 admissions and 2 deaths, one being that of an invalid. In the preceding year there were 6 cases and no deaths. All the admissions were for tubercular disease of the lungs, and the deaths were due to the same affection. The remaining admissions for general diseases were two cases of anæmia.

Local Diseases.—*Diseases of the Nervous System* caused 6 admissions, and 2 deaths. The admission ratio, 4·5 per 1,000, is about the same as in the previous year, but below the average of four years by 3·7. The cases comprised two of paralysis, two of mental disease, one of neuralgia, and one of cerebral hæmorrhage, fatal. There was also one death from general paralysis in a case of mania.

Diseases of the Eye caused only 5 admissions, or 3·7 per 1,000, which is a good deal below the last year's rate and than the average rate.

Diseases of the other Organs of Special Senses.—Nine admissions are returned, or 6·7 per 1,000, less than half the rate in the previous year, and below the average rate. With the exception of a case of epistaxis, all the admissions were for aural affections.

Diseases of the Circulatory System.—37 admissions and 4 deaths are returned, including one of an invalid. The admission rate, 27·5 per 1,000, is above the corresponding rate in the previous year by 17·7, and considerably above the average rate. Of the total number of admissions as many as 26 were for palpitation, 10 for valve disease of the heart, two being fatal, and 1 for pericarditis, fatal. The death of the invalid was due to valve disease of the heart.

Diseases of the Respiratory System.—32 admissions are returned, being in the ratio of 23·8 per 1,000, which is fractionally above the average rate, and above the last year's rate by 3·6. The cases comprised 26 of bronchial affection, 3 of pleurisy, 2 of pneumonia, and 1 of asthma.

Diseases of the Digestive System.—The admissions were 96 in number, equal to a ratio of 71·3 per 1,000, which is below the corresponding rate in the previous year by 16·0, and below the average rate by 36·0. The principal causes of admission were dyspepsia 32 cases, diarrhœa 21, and hepatic diseases 24 cases.

Diseases of the Lymphatic and Glandular System caused an admission rate of 13·4 per 1,000, being lower than in the previous year by 4·7, and below the average by 3·1. There were 2 admissions for *urinary diseases* as compared with 8 in the previous year. The cases were one of albuminuria and one of retention of urine. *Diseases of the Generative System* gave an admission ratio of 126·3 per 1,000 which is below the last year's rate by 17·5, and above the average rate by 19·2. Out of 170 admissions, 148 were for simple venereal ulcer. *Diseases of the Organs of Locomotion.*—9 admissions are shown, equal to 6·7 per 1,000, a decline of 3·8 from the previous year's rate, and below the average. All the admissions but one were for synovitis.

Diseases of the Connective Tissue caused an admission ratio of 14·1 per 1,000, below the last year's rate by 3·4, and a good deal below the average rate. *Diseases of the Skin*, with a ratio of 23·0 per 1,000, were considerably less frequent than usual, the decline from the previous year's rate being 21·7, and that from the average rate 32·0.

Injuries.—125 admissions and 2 deaths are returned. The admission ratio, 92·9 per 1,000, is higher by 15·4 than in the previous year, and above the average rate by 14·0. The admissions were for contusions, wounds, and sprains chiefly, and among the remainder were 12 cases of fracture. One of the deaths was from accidental drowning, and the other a case of suicide by cut throat.

Invaliding.—The number of men invalided home was 34, being in the ratio of 25·26 per 1,000, which is greater than the corresponding rate in the preceding year by 7·11 but less than the average ratio for the previous ten years by 10·13. Of the men invalided, 5, or 21·27 per 1,000 belonged to the artillery, and 29, or 30·65 per 1,000, to the infantry; these ratios are in excess of those in the preceding year by 11·84 and 12·85 respectively. With regard to age, 2 men, or 66·67 per 1,000, were under 20 years of age; 15, or 21·83 per 1,000 between 20 and 25 years of age; 14, or 26·51 per 1,000, between 25 and 30 years; 2, or 27·78 per 1,000, among men in the next quinquennium; and 1, or 34·48 per 1,000, was over 35 years of age. With regard to length of service in the Command, 28 men, or 89·46 per 1,000, were in their first year of service; 4, or 5·06 per 1,000, in their second year; and 2, or 43·48 per 1,000, had three years' service in the Command. The principal causes of invaliding were valvular disease of the heart 8 cases, tubercular disease of the lungs 4, malarial cachexia 3, and diarrhœa 3 cases. The number of men finally discharged by invaliding was 25, being in the ratio of 18·57 per 1,000, which exceeds the corresponding rate in the previous year by 8·80. The principal disabilities necessitating discharge were diseases of the circulatory system 8 cases, and debility, diseases of the digestive system, and injuries 3 cases respectively.

Officers.—The average strength was 51, and there were 32 attacks of illness, no deaths, and 1 officer was invalided to England. The ratio of prevalence of sickness was, therefore, 627·4 per 1,000, lower than that in the previous year by 112·6. The principal causes of sickness were malarial fevers and injuries. The case of invaliding was due to tubercular disease of the lungs.

Women.—The average strength was 47, and the number of cases of illness 67. The ratio of prevalence of sickness was 1425·5 per 1,000, an increase of 336·6 on the previous year's rate. The chief causes of sickness were malarial fevers. There were two deaths, both from remittent fever.

Children.—The average strength was 86, and the number of attacks of illness 163. The ratio of sickness was, therefore, 1895·3 per 1,000, higher than in the previous year by 252·4. The principal cause of sickness was malarial fever, as many as 69 cases being returned. Diarrhœa and bronchitis also caused a good many cases of illness, 29 and 22 respectively. There were 5 deaths, three from remittent fever, one from diarrhœa, and one from convulsions.

Sanitary Conditions.—The Principal Medical Officer reports that "continued "attention was paid during the year to all matters likely to affect the health of "the troops, and with satisfactory results. The recent improvements in "sanitation have by no means been confined to the barracks and their im-"mediate vicinity. The steps taken for increasing the salubrity of the city of "Victoria have been on a very extended scale, and have already shown their "beneficial influences. In addition to the new waterworks, in the benefit of "which the barracks now participate, having an abundant and pure supply, "a complete scheme of new drainage for the whole of the colony is now being "carried out, and when finished must almost necessarily have the most "favourable results as regards the health of the whole community, including "the troops.

"The question of provision of a new hospital to replace the present un-"satisfactory hospital ship remains apparently no further advanced than at "date of last report, but no improvement involving much expense can be "undertaken until a decision has been arrived at regarding the removal of "troops to new cantonments or the continued occupation of the barracks in "Victoria."

The following are the main improvements and additions carried out during the year:—Tytain water has been laid on throughout the cantonment. A drying room was erected at the sanitarium. The roof of the hospital ship,

China. "Meeanee," was recovered with canvas, the ship repaired throughout and repainted, and Warren's cooking apparatus was substituted for Chinese fire-places on board. A new coffee-shop was erected in Wellington barracks, and an additional cell provided in Victoria barracks.

II.—Asiatic Troops.

The black troops consist of the China Gun Lascars, average strength 200, quartered in Macgregor barracks. The admissions to hospital were 227 in number, and there were 5 deaths, being in the ratios of 1135·0 and 25·00 per 1,000 respectively. Compared with corresponding ratios in the previous year there is an increase of 28·3 in the admission ratio, and a decrease of 14·32 in the death rate. The average number constantly sick was 6·88, being in the ratio of 34·40 per 1,000, almost identical with the corresponding rate in the previous year.

As in 1889, malarial fevers accounted for no less than fifty per cent. of the admissions. Among the remainder the principal causes of illness were venereal diseases, disorders of the digestive system, and respiratory diseases. The deaths were 3 from malarial fever, 1 from tubercular disease of the lung, and 1 from diarrhœa. One man was invalided for remittent fever during the year.

XII.—ON THE HEALTH OF THE TROOPS SERVING IN THE STRAITS SETTLEMENTS.

Sickness and Mortality.

I.—White Troops.

Straits Settlements.

The average strength of the force in the Straits Settlements was 1,257. The troops in garrison were the 13th Battery, Southern Division, Royal Artillery, throughout the year, the 32nd Battery, Southern Division, up to 20th February, when it left for Malta, having been relieved by the 26th Battery, Southern Division; detachment Royal Engineers, the 2nd Battalion Northamptonshire Regiment, detachments Ordnance Store Corps and Medical Staff Corps, and Garrison Staff. The distribution was:—The batteries of artillery at Fort Canning and outlying forts, the engineers on the island of Pulo Brani, six companies of the infantry regiment at Tanglin, and two companies at Penang, and detachments of departmental corps at various stations.

In the following table the principal health statistics of these troops are given:—

1890. Average Strength.	Admissions.	Deaths			Invalids		Daily Average Sick.	Ratio per 1,000 of Strength.				
		In the Command.	Of Invalids.	Total.	Sent Home.	Finally Discharged.		Admissions.	Deaths.	Invalids Sent Home.	Invalids finally Discharged.	Constantly Sick.
1,257	1,570	5	—	5	25	15	122·36	1249·0	3·98	19·89	11·93	97·34

Compared with the return for the previous year the admission ratio has declined considerably, the decrease being as much as 359·3 per 1,000, the death rate also is lower by 1·70, and the constantly sick rate by 2·50; but compared with the average rates for the preceding ten years there is an increase of 52·9 in the admission rate, and one of 41·52 in the constantly sick rate; the mortality rate, however, is lower by 3·30. The average sick time to each soldier was 35·53 days, which differs only fractionally from the corresponding period in the previous year, but is longer than the average period for the preceding ten years by 15·16 days. The average duration of each case of sickness was 28·44 days, which is longer than in 1889 by 5·78 days, and longer than the average decennial period by 11·41 days.

The principal sickness and mortality statistics of separate corps will be found in Abstract XL. In the artillery the admission ratio was 1142·2, and the constantly sick rate 90·09 per 1,000, the former being about the same but the latter considerably above the corresponding rate in the previous year; the mortality rate was *nil*. In the infantry regiment the ratio of admission was 1331·2 per 1,000, the death rate 5·19, and the constantly sick rate 103·10, all of which compare favourably with the similar ratios for this regiment in the preceding year. In the detachments Royal Engineers and departmental corps the sick ratios were small, and there was no mortality.

Straits Settlements.

Taking the sickness and mortality according to the age of the troops, it is found that among men under 20 years of age the admission rate was 818·2 per 1,000, among men between 20 and 25 years of age 1297·2 per 1,000, among men in the next quinquennium 1313·4 per 1,000, and among men over that age 796·5 per 1,000. In the previous year the highest admission ratio was among men between 20 and 25 years of age. There was one death among men under 20 years of age, equal to a ratio of 45·45 per 1,000, among men between 20 and 25 years of age there were 2 deaths, or 2·78 per 1,000, and among men in the next quinquennium there were also 2 deaths, or 4·97 per 1,000. With regard to the influence of the length of service in the Command, it appears that the admission rate among men in their first year of service was 1875·4 per 1,000, among men in their second year 1032·6 per 1,000, among men in their third year 841·5 per 1,000, increasing again among men over three years' service. In the previous year the highest ratio was among men in their third year of service. All the deaths took place among men in their second year of service in the Command, the mortality rate being 6·04 per 1,000.

In Abstract XIV. will be found the sickness, mortality, and invaliding arranged according to the different groups and orders of diseases.

General Diseases.—*Diseases dependent on Morbid Poisons.*—There were no *eruptive fevers* recorded among the troops during the year, and only one case of *enteric fever*, though in the previous year there were two cases, one fatal. The case in the year under report was not connected with any insanitary condition it having been transferred from the civil gaol. *Other continued fevers* caused only 9 admissions, or 7·2 per 1,000, as compared with 65 admissions, or 61·5 per 1,000, in the previous year; the average ratio for the preceding four years was 91·2 per 1,000. There was a sharp outbreak of *cholera* in the civil lunatic asylum in the second quarter of the year, but no case occurred among the troops. *Dysentery* caused 10 admissions, being in the ratio of 7·9 per 1,000, which is below the corresponding rate in the prevous year by 11·0, but differs only fractionally from the average rate. Seven cases occurred at Penang, and the remainder at Tanglin. None of them were of a severe type, though some were chronic and intractable. One case of *influenza* completes the number of admissions in the first sub-group of diseases.

Malarial Fevers.—The admissions numbered 129, equal to a ratio of 102·6 per 1,000, which is higher than the corresponding ratio in the previous year by 32·6, but below the average ratio for the preceding four years by 63·6. The cases at Tanglin were, 70 of ague, 15 of remittent fever, and one of malarial cachexia; at Penang 41 of ague, and at Fort Canning one of ague and one of remittent fever. No death occurred. With regard to the cases at Penang, it is said that a large proportion of them were admitted during the first quarter of the year; influenza was prevalent at the time among the civil population. At Tanglin none of the cases were very severe; high temperatures were sometimes observed, but they were not persistent, and speedy convalescence, as a rule, ensued. The severe cases were especially remarkable in men who had previously contracted the disease in Hong Kong, where the 2nd Battalion Northamptonshire Regiment had been quartered prior to being transferred to the Straits Settlements.

Venereal Diseases.—There were 150 admissions for *primary syphilis*, being in the ratio of 119·3 per 1,000, which is higher than the corresponding rate in the previous year by 39·8, and more than double the average rate for the preceding four years. Including the sickness from simple venereal ulcer, the admission ratio for primary venereal sores was 242·6 per 1,000, which, though above the average rate by 86·1, was below the rate in the previous year by 80·0. *Secondary syphilis* caused as many as 204 admissions, the ratio being 162·3 per 1,000, which shows an increase on the last year's rate of 50 7, and is above the average rate by 116·6. *Gonorrhœa* was the cause of 281 admissions, or 223·5 per 1,000, an increase of 11·6 over the last year's rate, and one of 78·5 over the average rate. Including all forms of venereal disease, the admissions amounted to 796, and the number constantly sick to 70·51, which are more than half the admissions and constantly sick from all causes. The admission ratio was 628·4 per 1,000, which, though below the corresponding rate in the previous year by 17·7, is above the average rate by as much as 281·2. The total amount

of constant inefficiency from these diseases was 56·09 per 1,000, above the rate in 1889 by 5·30, and above the average rate by 30·70. Speaking of the prevalence of these diseases, the Senior Medical Officer, Surgeon-Major J. G. Williamson, remarks that, "although secondary syphilis has not shown itself "in a virulent form, it causes prolonged cachexia and is the cause of considerable inefficiency. It has produced a very material increase in the invaliding "rate, which next year will be probably more emphasized." He fears that nothing short of the reintroduction of a Contagious Diseases Ordinance in some form is likely to ameliorate the present condition of affairs.

Parasitic diseases caused four admissions, three being cases of tænia solium.

Alcoholism caused 6 admissions as compared with 11 in the previous year. There were no cases of delirium tremens.

Debility.—Under this head 28 admissions are recorded, being in the rate of 22·3 per 1,000, an increase of 10·0 on the last year's rate, and above the average rate by 4·7.

Rheumatism caused 23 admissions, being in the ratio of 18·3 per 1,000, which is above the corresponding rate in the previous year by 4·1, and above the average rate by 5·6. The cases were distributed as follows:—10 at Tanglin, 8 at Fort Canning, and 5 at Penang. No case of rheumatic fever occurred.

Tubercular Diseases caused 3 admissions and one death, against 2 cases and no deaths in 1889. One case occurred at Fort Canning and two at Tanglin. The death was that of a man who had been admitted in the previous year. All the cases were due to affection of the lungs.

Of the 17 remaining admissions in this group of diseases, one was a case of diabetes, and all the rest non-malignant new growth.

LOCAL DISEASES.—*Diseases of the Nervous System.*—9 admissions and one death are returned. The admission ratio, 7·2 per 1,000, differs from the corresponding rate in the previous year by an increase of 3·5, and from the average rate of the preceding four years by almost the same. The cases comprised one of meningitis, fatal, one of paralysis, two of neuralgia, and the rest vertigo.

Diseases of the Eye caused 23 admissions, equal to a ratio of 18·3 per 1,000, as compared with 101·2 in the previous year, when there was a large, though not severe, outbreak of catarrhal conjunctivitis. The ratio is also below the average by 14·7. More than half the admissions were due to conjunctivitis.

Diseases of the Organs of Special Senses were the cause of 27 admissions, or 21·5 per 1,000, which is above the average rate, but lower than that in the previous year by 10·7. All the admissions were for aural affections.

Diseases of the Circulatory System were the cause of 10 admissions, or 7·9 per 1,000, above the last year's rate by 5·1, and the average rate by 1·9. Of the admissions, 6 were for valvular disease, 2 for palpitation, and 1 for dilatation of the heart, also 1 for varix.

Diseases of the Respiratory System were more frequent than usual, the admission ratio, 31·8 per 1,000, being above the average rate by 9·2, and above the previous year's rate by 11·9. Out of 40 admissions, 33 were for bronchial affections; there were also 3 cases of pneumonic phthisis, one fatal, and 1 of laryngitis, hæmoptysis, and pleurisy respectively. A death from pneumonia is also recorded.

Diseases of the Digestive System caused 77 admissions, being in the ratio of 61·3 per 1,000. This shows a considerable decline, as much as 56·0 from the corresponding rate in the previous year, and is below the average rate by 17·2. Diarrhœa was the principal cause of admission, 35 cases being returned. Among the remaining admissions were 13 for hepatic disease.

Diseases of the Lymphatic and Glandular System were the cause of 73 admissions, equal to a ratio of 58·1 per 1,000 which, though considerably below the rate in the previous year, is above the average rate by 13·5

Diseases of the Urinary System caused only 3 admissions, as compared with 6 in the previous year. The cases were 2 of Bright's disease and one of diabetes insipidus.

Diseases of the Generative System.—188 admissions are returned, of which 155 were for simple venereal ulcer. The admission ratio, 149·6 per 1,000, though rather above the average, is lower than in the preceding year by 139·3 per 1,000.

Straits Settlements.

Diseases of the Organs of Locomotion gave an admission ratio of 10·3 per 1,000, just about the average rate, but below that in the previous year by 3·9. Out of 13 admissions 7 were cases of synovitis.

Diseases of the Connective Tissue.—29 admissions gave a rate of 23·1 per 1,000, below the rate in 1889 by 27·1 and the average rate by 15·5.

Diseases of the Skin caused 102 admissions, or 81·1 per 1,000, which is below the ratio in the preceding year by 42·8, and below the average rate by 17·7. The more frequent cause of admission was ringworm, 34 cases having occurred.

Injuries.—109 admissions are returned, the ratio being 86·7 per 1,000, which shows a reduction of 44·9 from the previous year's rate, and one of 39·4 from the average rate. General injuries were represented by one case of sunstroke and a death from accidental drowning. The admissions for local injury were of ordinary character and do not require special mention.

Invaliding.—The number of men invalided home during the year was 25, being in the ratio of 19·89 per 1,000, which is just about half the corresponding rate in the preceding year, and below the average rate of ten years by 2·89. Of the men invalided, 6, or 26·67 per 1,000, belonged to the artillery, and 19, or 19·73 per 1,000, to the infantry. With regard to the ages at which invaliding took place, 13 men, or 18·05 per 1,000, were between 20 and 25 years of age; 9, or 22·39 per 1,000, were between 25 and 30 years of age; and 3 men, or 26·55 per 1,000, were over 30 years of age. As to length of service in the Command, 1 man, or 3·04 per 1,000, was in his first year; 22 men, or 26·57 per 1,000, in their second year; 1 man, or 12·19 per 1,000, in his third year; and one man, or 55·55 per 1,000, was over three years' service. The principal causes of invaliding were constitutional syphilis 7 cases, or 5·56 per 1,000, dysentery 4, or 3·18 per 1000, diseases of the generative system also 4 cases, and debility and tubercular disease 2 cases each. The number of men finally discharged, as medically unfit for further service, was 15, equal to a ratio of 11·93 per 1,000, being, about half the rate in the previous year. The chief disabilities necessitating discharge were diseases of the generative system 4 cases, debility 4, and constitutional syphilis 2 cases.

Officers.—The average strength of officers was 48, and there were 32 cases of illness, being in the ratio of 666·6 per 1,000, which is lower than the corresponding rate in the previous year by 284·6. The principal causes of sickness were malarial fevers and injuries. No death occurred, but 5 officers were invalided, one on account of dysentery, meningitis, bronchitis, albuminuria, and injury respectively. The last-mentioned was a case of wound of thigh from an elephant's tusk when on a shooting expedition.

Women.—The average strength was 33, and there were 25 cases of sickness, being in the ratio of 757·6 per 1,000, which is lower than the rate in 1889 by 117·4. The chief causes of sickness were malarial fevers and debility. It was necessary to invalid two women, one on account of debility and the other on account of heart disease.

Children.—The average strength is shown to have been 45, and there were 30 cases of sickness, but no death. The ratio of prevalence of sickness, 666·6 per 1,000, shows a decline of 166·7 from the last year's rate. The cases treated comprised 13 of whooping-cough, 11 of bronchial affection, 4 of diarrhœa, and 1 of inflammation of glands and croup respectively.

Sanitary Conditions.—The Senior Medical Officer reports that there were no special unsatisfactory sanitary conditions during the year which exerted an unfavourable influence on the health of the troops.

The improved drainage on the rifle range at Tanglin was maintained, and the special prevalence of malarial fevers in the bungalows overlooking the range was less pronounced. More attention was paid to the cutting of the jungle in the neighbourhood of the barracks.

A reduction took place in the amount of cubic space per man in the barracks at Tanglin owing to an increase of strength, caused partly by a large draft which arrived from home in January, and partly by a company of the 2nd Battalion Northamptonshire Regiment, previously stationed at Hong Kong, rejoining headquarters in February, but this has not caused overcrowding as the regulation space could still be afforded. To meet the

emergency of overcrowding in the hospital, the guard-room attached to it was vacated in October, and by this means ample space was obtained.

No special recommendation was needed with regard to drainage. Water runs away satisfactorily, but the surface drains at Tanglin require frequent clearance, as they soon become choked with weeds and sand.

Towards the close of the year the barracks and hospital at Tanglin were re-thatched, the roofs having been found to be in an unsatisfactory condition.

For some time past the question of laying on water for the Tanglin barracks from the town mains has been under discussion, but some difficulties arose in the latter part of the year owing to it being found that there was not power enough to bring the water to as high a level in the barracks as was anticipated; also on account of some doubt as to the quality of the water which rendered further analysis necessary, which, however, gave satisfactory results. The question was at the time of report in abeyance, but it was hoped that its settlement would not be long deferred.

No alteration has taken place in the rations or cooking, which are satisfactory; the ablution arrangements remain the same; but a change has taken place in the clothing by the general introduction of khaki.

II.—Asiatic Troops.

The force consisted of the company of submarine miners of the Royal Engineers at Pulo Brani, and a detachment of the Corps of China Gun Lascars at Fort Canning, the average strength being 49 and 15 respectively. The admissions only amounted to 20, and the average daily sick was ·91; no death occurred. The admission ratio was 312·5, and the constantly sick rate 14·22 per 1,000. Among the cases treated were 5 of malarial fever, 5 of venereal disease, and 2 of dysentery.

XIII.—ON THE HEALTH OF THE TROOPS SERVING IN INDIA.

Sickness and Mortality.

India.

The average strength of the warrant officers, non-commissioned officers and men in India was 67,456; the admissions into hospital were 102,337; and the deaths 975, of which 919 took place in India, and 56 (being those of invalids) on the passage to or after arrival in England. The average number of constantly sick was 5865·97. The rates from these numbers are, for admissions 1517·1, for deaths 14·45, and for constantly sick 86·96 per 1,000 of the strength.

The sickness for each of the three Commands is shown in the following table:—

—	Average Annual Strength.	Admitted into Hospital.	Deaths.			Invalids sent Home.	Invalids discharged the Service.	Average constantly Sick.
			In India.	Of Invalids.	Total.			
Bengal - -	41,143	65,393	637	29	666	1,036	706	3668·27
Madras - -	13,551	19,096	160	17	177	311	204	1202·20
Bombay - -	12,762	17,843	122	10	132	368	236	995·50
Total - -	67,456	102,337	919	56	975	1,715	1,146	5865·97
Ten years, 1880—89 - -	597,058	881,245	8,836	463	9,349	16,659	8,077	42496·00

continued.

—	Ratio per 1,000 of Mean Strength.					Average Sick Time to each Soldier.	Average Duration of each Case of Sickness.
	Admitted.	Died.	Invalided Home.	Invalids discharged.	Constantly Sick.		
						Days.	Days.
Bengal - -	1589·5	16·18	25·18	17·16	89·16	32·54	20·47
Madras - -	1409·2	13·07	22·95	15·05	88·71	32·38	22·98
Bombay - -	1398·4	10·35	28·83	18·49	78·00	28·47	20·36
Total - -	1517·1	14·45	25·42	16·99	86·96	31·74	20·92
Ten years, 1880—89 - -	1476·0	15·66	27·90	13·53	71·17	25·98	17·60

I.—Bengal.

Bengal.

The average strength of the troops serving in the Command during the year was 41,143 warrant officers, non-commissioned officers and men, differing but very slightly from the strength in the previous year.

In the following table are given the more important statistics of sickness and mortality among the troops during the year:—

1890. Average Strength.	Admissions.	Deaths.			Invalids.		Average Constantly Sick.	Ratios per 1,000 of Strength.				
		In the Command.	Of Invalids.	Total.	Sent Home.	Finally discharged.		Admissions.	Deaths.	Invalids sent Home.	Invalids finally discharged.	Average constantly Sick.
41,143	65,395	637	29	666	1,036	706	3668·27	1589·5	16·18	25·18	17·16	89·16

Compared with corresponding ratios in the preceding year an increase of 55·4 per 1,000 has occurred in the ratio of admission, and one of ·24 in that of constantly sick, but there is a decline of ·38 in the death rate. Compared with average similar ratios for the previous ten years the admission rate shows an increase of 41·3, and the ratio of constant inefficiency through sickness one of 16·60, but the death rate is lower by ·02 per 1,000. The average sick time to each soldier was 32·54 days, which is almost identical with the corresponding period in the previous year, but longer than the average period for the preceding ten years by 6·06 days. The average duration of each case of sickness was 20·47 days, and was less than the corresponding period in 1889 by ·69 of a day, but longer than the decennial average period by 3·37 days.

The loss to the Command by death and invaliding to England was 1,673 warrant officers, non-commissioned officers and men, being in the rate of 40·66 per 1,000, which is identical with that in the previous year, and the loss to the army by death and final discharge as medically unfit for further service among troops in the Bengal Presidency was 1,372, equal to 33·34 per 1,000, an increase of 4·09 on the return for the previous year.

In Abstract XVI. will be found a table taken from the report of the Principal Medical Officer, Surgeon-General W. A. Thomson, giving the most important of the statistics of sickness and mortality in the different administrative districts. As in the preceding year the Nerbudda district gave the highest admission ratio, 2123·2 per 1,000, an increase of 69·1 in the ratio in the preceding year; malarial fevers and venereal affections were the prevailing diseases; the next ratio, 1916·9, was in the Presidency district, the same diseases being most prevalent, though continued fevers and dysentery contributed; the third ratio, 1888·6 was furnished, as in the previous year, by the Bundelkhand district. The Lahore district, which stood second in this category in the previous year, is in the year under report in the sixth place with a ratio of 1711·2, being preceded by Meerut with 1772·3, and Allahabad with 1743·9. Malarial and venereal diseases were the chief causes of inefficiency in them all. The lowest admission ratio was 1094·8 per 1,000 and occurred in the Quetta district, followed by 1227·1 in Sirhind and 1390·3 in Rohilkhand. Compared with the return for the previous year an increase of admission ratio has occurred in eight districts, the largest being 442·2 in the Presidency, 248·7 in the Meerut district, and 187·1 in Sirhind; in four districts the ratios have decreased, in Rohilkhand by 214·4, in Lahore by 142·0, in Peshawar by 99·2, and in Quetta by 57·8. The highest ratio of mortality occurred in the Meerut district, 23·40 per 1,000, due principally to enteric fever, and diseases of the respiratory and digestive systems; the next rate was

Bengal.

22·84 in Rohilkhand, enteric fever, cholera, and hepatic disease being the chief causes of mortality; the third ratio was 20·03 in the Bundelkhand district, and the fourth, 19·98, in the Allahabad district. The lowest mortality rate was 7·09 in the Nerbudda district, the next, 9·38 in the Quetta district and 10·22 in the Peshawar district. Compared with corresponding ratios in the preceding year, half the districts show an increase in mortality, the most marked being 8·26 in the Meerut district and 6·20 in Sirhind; among the instances of decrease the greatest was 17·34 in the Nerbudda district and 13·83 in the Lahore district.

The sickness and mortality at the different stations in the Command are shown in a table in Abstract XVII. taken from the report of the Principal Medical Officer.

Among the stations in the plains having an average annual strength of over 150 men the highest ratio of admission occurred at Saugor, 2539·9 per 1,000, and was higher than that in the preceding year by 377·0, and than the average ratio for ten years by 790·2. More than half the total admissions were due to ague, attributable to climatic causes, as during the monsoon instead of rain falling more or less regularly throughout, there were only a few short periods of very heavy rain, followed by prolonged intervals of very hot weather. The greatest number of admissions occurred in September, which was almost rainless and very hot. The next highest ratio, 2353·5, occurred at Amritsar, higher than in the previous year by 272·3, but lower than the decennial average rate by 147·5. Most of the admissions were due to malarial fevers, which were chiefly prevalent from August to November, but it is stated that the average constantly sick rate was lower than in the previous year. Meean Meer, which gave the highest admission ratio in 1889, gave the ratio third in order in the year under report, 2326·4 per 1,000, which shows a decline of 343·7 from the last return, and one of 337·3 from the decennial average. Malarial fevers and venereal contributed principally to the high ratio, considerably more than half the admissions being due to these diseases. Jhansi had an admission ratio of 2226·1 per 1,000, being higher than the ratios of the previous year and the ten years' average by 280·6 and 169·3 respectively. At Nowgong the ratio was 2207·4 per 1,000, an increase of as much as 501·1 over the decennial rate, but only 76·7 higher than the rate in the previous year. Nowshera gave a ratio of 2108·5, greater than the rate in 1889 by as much as 833·0, and above the decennial average by 493·2. At Meerut the ratio, 2066·2, was higher in the two comparisons by 396·6 and 327·0 respectively, and at Sialkot the rate, 2017·3, was increased by 339·8 and 622·7. There were also high ratios at Fort William, 1991·0 per 1,000, Dum Dum 1987·9, Jubbulpore 1987·1, and Dinapur 1980·0, all of which are higher than corresponding rates in the previous year and above average ratios. At all these stations the high admission rates were mainly attributable to malarial and venereal diseases. At Nowshera, Meerut, and Dum Dum simple continued fever in addition contributed to the high rate of inefficiency. The lowest admission rate, 1094·8 per 1,000, occurred at Quetta, and was below the previous year's rate by 57·8, and below the average rate for six years by 192·5. The ratio next above was 1171·4 at Umballa, being higher than in 1889 by 164·9, but lower than the decennial average by 110·8. Other stations with comparatively low admission rates were Sitapur, with 1221·2, below the average rate by 175·5, but above the last year's rate by 35·9; Jullundur 1326·4, Fatehgarh 1338·5, and Bareilly 1340·0; all these are lower than the corresponding rates in the previous year, and below decennial average rates. The highest ratio of mortality at any station occurred at Muttra, and was 29·34 per 1,000, an increase of 12·91 on that in the previous year, and of 13·52 on the decennial average rate. Of the 12 deaths which occurred at this station 4 were from cholera and 3 from enteric fever. The next ratio was 28·85 at Delhi, showing an increase of 13·52 as compared with the last year's rate, and 10·18 as compared with the decennial average. The ratio is increased by the deaths of two men not belonging to the garrison left behind by corps passing through. At Bareilly the death rate was 28·14 per 1,000, which, though less than in the previous year by 4·62, is higher by 16·17 than the decennial average rate. Of the 35 deaths which occurred 25 were due to enteric fever. Meean Meer, which gave the highest mortality rate in 1889, in the year under report, had a rate of 26·20, having declined by

21·20, and was less than the average rate by 4·22. Of 24 deaths, 7 were due to enteric and 2 to remittent fever. Jhansi shows a death rate of 25·91, being above the rate in 1889 and above the average by 5·82 and 6·49 respectively, and Cawnpore gave a rate of 25·10, higher by 4·66 and 9·13 in the above comparisons. At the former station, of 22 deaths 9 were caused by enteric fever and 4 by dysentery, and at the latter, of 19 deaths 11 were due to enteric fever. The lowest ratio of mortality was 2·66 per 1,000 at Nowgong, lower than the preceding year's ratio by 12·49, and than the decennial average by 13·01. This is followed by 3·07 at Saugor, 5·81 at Fyzabad, 6·86 at Mooltan, 7·21 at Sitapur, 7·26 at Dum Dum, all lower than the corresponding ratios in the preceding year, and below the decennial average ratios. Mortality increased at twelve stations, the most marked increase being 13·52 at Delhi and next, 12·91, at Muttra and Nowshera respectively. At twenty-three stations there was a decrease in death rate, the greatest being 25·64 at Benares, 25·20 at Jubbulpore, and 21·20 at Meean Meer. *Bengal.*

Comparing the several convalescent depôts at hill stations, the highest admission ratio is found to be at Landour, 1930·1 per 1,000, which although lower than the previous year's rate by 333·5, is in excess of the decennial average by 139·8; the prevailing diseases were malarial and simple continued fevers and venereal affections. The next ratio was 1762·4 at Naini Tal, a decline from the last year's rate by 168·6, but above the average by 229·8; more than one-third of the admissions were from venereal disease. Pachmarhi, which gave the highest ratio in the preceding year, was third in order in the year under report with 1723·2, a decline of 954·7, but above the average by 73·3. Malarial fevers and venereal affections were the chief causes of inefficiency, but the number of admissions for the former was only a third of that in 1889. At Darjeeling the ratio, 1520·3, was slightly below the last year's rate, but above the decennial average by 345·9. Murree and Dalhousie with ratios of 1409·1 and 1224·0 respectively are lower in both comparisons, while Kasauli with 1164·3, although slightly in excess of the rate in the previous year, shows a decrease of 777·9 as compared with the decennial average. The principal causes of admission at these stations were malarial fevers and venereal affections, and at Darjeeling influenza in addition. The highest ratio of mortality, 48·95 per 1,000, occurred at Landour; in the previous year there was no death, and the decennial average rate is 14·55. At Murree the death rate was 34·09, an increase of 14·67 on the last year's rate, and of 8·22 on the average rate. The number of deaths was 6, of which 4 were from enteric fever. The mortality rate at Darjeeling was 18·97, an increase of 7·52 and 3·67 in the above comparisons. All the other convalescent depôts gave lower death rates than in the preceding year, the greatest decrease, 11·94, being at Naini Tal, at which place the highest death rate was in 1889. Dalhousie with a rate of 8·20 shows a marked decrease, 10·49; at Pachmarhi no mortality took place.

Of the principal hill stations garrisoned by healthy troops and having an average strength of over 150 men, Dagshai shows the highest admission ratio, 1516·5 per 1,000, which is an increase of 503·0 and 441·9 respectively as compared with the ratios of the preceding year and the decennial average. Malarial fevers and venereal affections were the prevalent diseases; to the former is principally owing the increase of sickness, due to the regiment in garrison having previously been stationed at Meean Meer, where it suffered much from ague. At Subathu the ratio of admission was 1413·6 per 1,000, being higher than that in the previous year by 243·1, and above the decennial average rate by 152·6: venereal and simple continued fever were the prevailing diseases. The ratio next in order was 1322·4 at Chaubuttia, a decline of 360·2 and 42·2 respectively, as compared with the previous year's rate and the average rate. More than half the admissions were due to venereal disease. At Ranikhet the ratio was 1248·2, a decline of 99·3, but above the average by 126·8. Venereal disease here also was the principal cause of the disease, but fevers and bowel disorders also contributed largely. Of the minor stations Bhagsu had the highest admission ratio, 1905·4, an increase of 697·1 on the previous year's rate, and of 728·3 on the average rate. Gnathong, garrisoned since the Sikkim expedition, gave the next highest annual ratio of sickness, 1782·1. The ratio at Topa was 1528·8, and that at Kalabagh 1435·5, being higher than the corresponding rates in the previous year, and the

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average rates. The highest death rate at these hill stations was 23·85 per 1,000 at Topa, an increase of 20·15 on the last year's rate, and of 22·45 over the average rate. At Ranikhet the death rate was 25·54, an excess of 15·44 and 13·99 in the above comparisons. Of 25 deaths, 13 were from enteric fever and 5 from cholera. At Chakrata the death rate was 23·34, being above the last year's rate by 5·43, and above the average by 14·34; out of 19 deaths, 13 were due to enteric fever. The mortality at Subathu was equal to 21·88 per 1,000, an increase of 2·93 on the rate in 1889, and one of 7·84 on the average rate; enteric fever here, also, was the chief cause. At Chaubuttia the ratio, 19·74, shows an increase. In five small hill stations there was no mortality.

In Abstract XLI. there is a table taken from the report of the Principal Medical Officer giving the more important of the statistics of sickness and mortality of the different arms of the service as well as of the various corps which served in the Command during the year.

The average strength of the cavalry was 3,341, and there were 5,610 admissions into hospital, 70 deaths in the Command, and 291·17 men were constantly sick. The admission rate was, therefore, 1679·1 per 1,000; the death rate 20·95, and the constantly sick rate 87·15 per 1,000. Compared with corresponding ratios in the previous year the admission rate has increased by 267·8, the death rate by 7·37, and the constantly sick rate by 3·02. The average sick time to each soldier was 31·81 days, and the average duration of each case of sickness 18·94 days, the former being longer by 1·10 days, and the latter shorter by 2·82 days, than the corresponding rate. Taking individual corps (except the 16th Lancers, which was only a short time in the Command), it is found the highest admission ratio was 2136·3 per 1,000 and occurred in the 3rd Dragoon Guards at Rawal Pindi during the greater part of the year with a detachment at Topa in the summer; this regiment had the lowest admission ratio in the previous year when it was stationed at Muttra; the increase was chiefly due to the great prevalence of ague. The next ratio was 1923·5 in the 5th Lancers stationed at Meerut, followed by 1787·3 in the 2nd Dragoon Guards quartered at Sialkot during the greater part of the year. The fourth ratio was 1688·8 in the 1st (King's) Dragoon Guards at Muttra; in the previous year while stationed at Rawal Pindi it gave the highest ratio. The lowest admission rate was 1103·7 in the 7th Dragoon Guards at Umballa, the next above being 1338·6 in the 17th Lancers stationed at Lucknow, during the greater part of the year. The highest rate of mortality also occurred in the 3rd Dragoon Guards and reached 23·85 per 1,000; this was followed by 23·38 in the 1st (King's) Dragoon Guards and 21·16 in the 17th Lancers; the lowest death rate was 16·79 in the 2nd Dragoon Guards, the next above being 17·01 in the 7th Dragoon Guards, and 19·15 in the 5th Lancers. The highest ratio of constantly sick was 107·07 per 1,000 in the 2nd Dragoon Guards, closely followed by 104·34 in the 3rd Dragoon Guards, then 92·75 in the 5th Lancers. The 7th Dragoon Guards gave the lowest ratio of constantly sick, 70·66, the 17th Lancers the next above, 72·49 and the 1st (King's) Dragoon Guards, 74·68.

In the artillery there was an average strength of 6,338, and there were 10,851 admissions into hospital, 118 deaths in the country, and 569·82 men were constantly sick. The admission ratio, therefore, was 1712·1 per 1,000, which differs only from the corresponding rate in the previous year by an increase of 1·8; the death rate was 18·62, a decline of 3·23, and the constantly sick rate 89·90, a decrease of 3·74. The average sick time to each soldier was 32·82 days, and the average duration of each case of sickness 19·17 days, which are shorter than the corresponding periods in the preceding year by 1·36 days, and ·81 of a day respectively. Excluding batteries which were only a short time in the Command, the highest admission ratio, 3281·0 per 1,000, occurred in No. 68 Field Battery, at Meean Meer; the next in order was 2843·1 in the 14th Battery, Eastern Division, at Rawal Pindi, then 2744·5 in the 60th Field Battery at Meean Meer, and 2744·0 in the 77th Field Battery at Nowgong. The lowest admission rate was 833·3 per 1,000, in the 8th Mountain Battery at Jutogh and Umballa, the next above being 925·5 in the 9th Mountain Battery at Bara Gully and Rawal Pindi, and 1021·1 in the 28th Battery, Southern Division, at Roorkee for the most part of the year. The highest mortality rate was 57·14 per 1,000 in the 12th Battery, Western Division, stationed at Agra the greater part of the year; the next in

order was 48·28 in T Battery, Royal Horse Artillery, at Rawal Pindi for nine months, 41·32 in the 68th Field Battery, and 40·82 each in B Battery, Royal Horse Artillery, and the 15th Field Battery at Meerut. There was no mortality in the 2nd, 37th, 39th, and 77th Field Batteries, the 1st, 3rd, 5th, 7th, and 8th Mountain Batteries, and the 24th Battery, Southern Division, while low ratios occurred in the 43rd Field Battery at Lucknow, 6·37, and in C Battery, Royal Horse Artillery, at Umballa, and the 65th Field Battery at Juilundur each 6·85 per 1,000. The highest ratio of constantly sick was 149·21 per 1,000 in the 70th Field Battery at Meerut, the next, 142·40, in the 68th Field Battery, 139·83 in the 4th Field Battery at Dinapore until October, when it left for England, and 138·48 in the 77th Field Battery at Nowgong for a similar period. The lowest ratio of constantly sick was 41·26 per 1,000 in the 28th Battery, Southern Division, at Roorkee and Agra, the next above being 49·00 in the 8th Mountain Battery and 49·15 in the 9th Mountain Battery. *Bengal.*

The average strength of the infantry was 30,057, and there were 47,419 admissions into hospital, 403 deaths in the country, and 2674·23 men constantly sick. The ratio of admission was 1577·6 per 1,000, an increase of 33·5 on the corresponding rate in the previous year; the death rate was 13·41, a decrease of 1·62; and the ratio of constant inefficiency through sickness was 88·97, an increase of 1·12. The average sick time to each soldier was 32·47 days, being longer than in the previous year by ·41 of a day, and the average duration of each case of sickness was 20·58 days, shorter by ·18 of a day than in the year 1889. Excluding the 1st Battalion Worcestershire Regiment which was only two months in the Command, the highest admission ratio among infantry regiments was 2223·5 per 1,000 in the 2nd Battalion Royal Scots Fusiliers, which was stationed at Nowshera for the greater part of the year, with a detachment at Cherat. The next ratio was 2210·9 per 1,000 in the 2nd Battalion Derbyshire Regiment at Jubbulpore and Saugor, followed by 2119·6 in the 1st Battalion Connaught Rangers at Dinapore and Gnathong, and 2033·8 in the 1st Battalion East Kent Regiment at Dum Dum and Barrackpore. The lowest admission ratio was 908·5 per 1,000 in the 2nd Battalion Royal West Surrey Regiment stationed at Umballa, with detachments at Solon and Dagshai; the ratio next above was 1042·3 in the 2nd Battalion Devonshire Regiment at Rawal Pindi and Kuldunnah, then 1094·4 in the 2nd Battalion Yorkshire Light Infantry, and 1199·8 in the 2nd Battalion Northumberland Fusiliers stationed at Rawal Pindi, with detachments in the Murree hills. Mortality was highest in the 1st Battalion Rifle Brigade at Bareilly and Ranikhet, the ratio being 29·85 per 1,000. Out of the 28 deaths in this regiment 18 were from enteric fever. The next highest ratio was 23·05 in the 1st Battalion Leinster Regiment at Agra, and then 21·52 in the 2nd Battalion Lincolnshire Regiment stationed at Cawnpore, with detachments at Allahabad and Fatehgarh. In both these regiments enteric fever was the chief cause of mortality. The lowest death rate was 4·05 per 1,000 in the 1st Battalion East Surrey Regiment stationed at Calcutta, the next above being 5·57 in the 2nd Battalion Devonshire Regiment, and 5·83 in the 2nd Battalion Yorkshire Light Infantry at Quetta. The highest ratio of constant inefficiency through sickness was 125·89 per 1,000 in the 1st Battalion Connaught Rangers. The next ratio was 114·81 in the 1st Battalion Leinster Regiment, followed closely by 114·45 in the 2nd Battalion Derbyshire Regiment at Jubbulpore, and the 2nd Battalion Royal Munster Fusiliers stationed at Bareilly and Chaubuttia, with a detachment at Shahjehanpore gave the high ratio of 112·05. The lowest ratio of constantly sick was 61·43 in the 2nd Battalion Devonshire Regiment, the next above being 62·12 in the 2nd Battalion Yorkshire Light Infantry, and 63·83 in the 2nd Battalion King's Own Scottish Borderers at Umballa and Subathu.

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In the following table are given as far as possible the statistics of sickness, mortality, and invaliding amongst the troops according to age :—

Ages.	Average Strength.	Admissions.	Deaths.	Invaliding.	Ratios per 1,000 of Strength.		
					Admissions.	Deaths.	Invaliding.
Under 20 years - -	1,108	1,590	8	9	1435·0	7·22	8·12
From 20 to 24 years -	19,264	35,765	354	529	1856·6	18·38	27·46
„ 25 „ 29 „ -	15,198	22,850	198	367	1503·5	13·03	24·15
„ 30 „ 34 „ -	3,861	3,770	50	78	976·4	12·95	20·20
„ 35 „ 39 „ -	1,202	1,022	13	41	850·2	10·82	34·11
„ 40 years and upwards	300	203	14	12	676·7	46·67	40·00
Not stated - -	210	195	—	—	—	—	—
Total - -	41,143	65,395	637	1,036	1589·5	15·48	25·18

From the above it will be observed that the ratio of admission among men under 20 years of age was high, but that it reached its highest among men between 20 and 25 years of age, falling again among men between 25 and 30 years of age, and with greater rapidity among men in the succeeding quinquennial age periods. This sequence of ratios is the same as that which occurred in the preceding year. Comparing the ratios of the different age periods in the two years an increase is observed in all except among men over 40 years of age in which there was a decrease of 64·8 per 1,000. The most marked instance of increase was 168·0 among men between 30 and 35 years, the next being 124·1 among men between 35 and 40 years, and 59·0 among men under 20 years of age. The increase in the remaining two ratios was small in each instance. The mortality ratios also followed a similar sequence to that in the preceding year, the death rate being moderately low among men under 20 years of age but rising to its highest among men between 20 and 25 years of age, falling after that through the succeeding quinquennia until 40 years of age is reached, after which it again increases. Compared with corresponding ratios in the previous year there is a marked increase in the death rate of men over 40 years of age, due to the occurrence of 14 deaths in a small average strength. There was also a slight increase in mortality rate among men between 30 and 35 years of age, but in all the other death rates there was a decline, being 2·83 among men under 20 years, 1·99 among men between 25 and 30 years of age, and fractional in the remaining two ratios.

In the next table is shown as far as possible the influence of length of service in the country on the sickness, mortality, and invaliding among the troops :—

Years of Service in the Country.	Average Strength.	Admissions.	Deaths.	Invaliding.	Ratios per 1,000 of Strength.		
					Admissions.	Deaths.	Invaliding.
Under 1 year - -	6,252	10,154	136	65	1624·1	21·75	10·40
From 1 to 2 years -	6,767	11,206	113	164	1656·0	16·70	24·24
„ 2 „ 3 „ -	6,161	10,021	65	142	1626·5	10·55	23·05
„ 3 „ 4 „ -	7,173	11,365	93	174	1584·4	12·96	24·26
„ 4 „ 5 „ -	5,711	9,179	74	179	1607·2	12·96	31·34
„ 5 „ 10 „ -	7,566	12,219	124	256	1615·0	16·39	33·84
„ 10 upwards -	1,303	1,056	32	56	810·4	24·56	42·98
Not stated - -	210	195	—	—	—	—	—
Total - -	41,143	65,395	637	1,036	1589·5	15·48	25·18

It will be noticed that the highest admission ratio was among men in their second year of service in the country, but that beyond this the ratios of sickness in the different years of service in the country do not show any very marked fluctuation. In the previous year the fluctuations were much more marked, the ratios of men in their second and fourth years of service in the country being considerably higher than the remainder. Comparing the ratios for the two years it is observed that there was a decrease of 110·2 per 1,000 in that among men in their second year of service, one of 117·2 among men in their fourth year, and one of 49·6 among men over ten years' service; in the remaining ratios an increase occurred, to a marked extent, 313·6, in that among men between five and ten years' service, but only slightly in the rest. With regard to mortality the ratio was high among men in their first year of service in the country, fell among men in their second year, and still further among men in their third year of service; after this it increased slightly among men in their fourth and fifth years of service, more among men between five and ten years' service, and further still among men over ten years in the country. In the previous year the sequence of ratios was somewhat similar except that the lowest ratio was among men in their fifth year of service, and there was some increase in the rate among men in their third year of service. Compared with the corresponding ratios in the previous year there was a decline of 6·21 in the ratio of mortality among men in their third year of service in the country, and one of 2·47 among men in their fourth year, in all the other ratios an increase is observed, being 4·32 among men over ten years' service in the country, 1·67 among men in their fifth year, and fractionally in the remainder.

In Abstract XV. is given a table showing the admissions, deaths, invaliding, &c. according to the different groups and orders of diseases, and in Abstract XVI. will be found the sickness and mortality from the various orders of diseases in each of the administrative circles of the Command.

GENERAL DISEASES.—*Diseases dependent on Morbid Poisons.*—The number of admissions for *eruptive fevers* was 62. Of these 23 were cases of *small-pox*, 3 of which were fatal. The admission rate was ·6 and the death rate ·07 per 1,000 as compared with 1·7 and ·19 in the previous year and with 1·1 and ·09 the similar average ratios for the preceding five years. The greatest number of cases in any station was 8 at Meerut, two of which proved fatal. The actual origin of these cases could not be traced, but it was known that the disease was prevalent among the native population. At Lucknow there were only 3 admissions during the year, as compared with 26 in 1889; this immunity is attributed by the Medical Officer in charge to the large number of re-vaccinations which were carried out, most of them with calf lymph. At Peshawar there were 3 cases, at Agra 2, and at Dinapore 2, one of which was fatal. The remaining cases were one at Sitapur, Muttra, Delhi, Sialkot, and Quetta respectively. Measles was the cause of 25 admissions and one death against 4 admissions and no death in the previous year. The cases were 6 at Agra, 6 at Meerut, 4 at Rawal Pindi, 3 at Jubbulpore, and one each at Dinapore, Sitapur, Ranikhet, Dalhousie, Sialkot, and Allahabad, the last mentioned being fatal. The remaining admissions for eruptive fevers included 6 cases of cow-pox, 2 of chicken-pox, 4 of epidemic rose rash, and 2 of dengue, one of which, at Chakrata, terminated fatally.

Enteric fever caused 996 admissions and 259 deaths, being in the ratios of 24·2 and 6·30 per 1,000, which are lower than the corresponding ratios in the previous year by 1·8 and ·42, but above the similar average ratios for the preceding five years by 6·1 and 1·35 respectively. The average number constantly sick was equal to 3·35 per 1,000, less than in the previous year by ·33, but above the quinquennial average rate by ·92. The per-centage of mortality to attack was 26·0, which is higher than in 1889 by ·1, but below the average by 1·6. In Abstract XVIII. is a table taken from the report of the Principal Medical Officer showing the stations at which the admissions and deaths from enteric fever occurred in each quarter of the year. The greatest number of cases occurred in the third quarter of the year, next in the fourth, then in the second, and lastly in the first quarter. Mortality was greatest in the third quarter, next in the second, followed by the third, and then by the first quarter. In the previous year the greatest number of cases and deaths were in the second quarter of the year, next in the third, then in the

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fourth, and least in the first quarter. The per-centage of mortality to attack was highest in the second quarter, 29·0, next in the third, 27·8, then in the first, 24·6, and least in the fourth quarter, 21·8. In the preceding year the highest per-centage was in the fourth quarter, and the lowest in the first. The disease appeared in every district, and, with the exception of Barrackpore, Darjeeling, Gnathong, Moradabad, Naini Tal, Pachmarhi, Kalabagh, and Kuldunnah, at every station in the Command. As in the two preceding years the highest admission rate in any district was in Rohilkhand, the ratio being 55·7 per 1,000, an increase of 4·3 on the previous year's rate. The ratio next in order was 35·5 in Bundelkhand, an increase of 12·0, followed by 34·4 in Meerut, an increase of 16·1, and 31·4 in the Rawal Pindi district, an increase of 1·6. The lowest ratio was again in the Presidency district, and was only 3·7 per 1,000, rather more than a fourth of the previous year's ratio, the next above was 4·2 in the Peshawar district, and 17·1 in the Lahore district, both of which are a good deal lower than the corresponding rates in the previous year. The highest mortality ratio was 14·16 per 1,000 in the Rohilkhand district, an increase of 3·63 on the last year's rate, the next was 11·26 in Bundelkhand, an increase of 4·25, and then 9·99 in the Meerut district, an increase of 3·15. The lowest death ratios were ·76 in the Peshawar district, 1·47 in the Presidency district, 2·47 in the Quetta district, and 2·66 in the Nerbudda district, all being lower than the corresponding ratios in the preceding year. With regard to individual stations that at which there were most cases of enteric fever was Bareilly, 98 admissions and 25 deaths, being recorded against 95 and 29 in the previous year. Of these 55 cases and 5 deaths were in the fourth quarter of the year (31 in December and 18 in November), 28 cases and 10 deaths in the first quarter, 14 and 9 deaths in the third quarter, and only one case, fatal, occurred in the second quarter, the months of April and June having been free from the disease. Of the total number of cases 71 were men of 24 years of age and under, and 41 were of less than twelve months' service in the country, and 19 were men in their second year of service. The medical officer in charge remarks that "in January, "November, and December the largest number of cases were admitted, those "in January being chiefly men of the 2nd Battalion South Wales Borderers, "and those in November and December men of the 2nd Battalion Royal "Munster Fusiliers who occupied the same camping ground as the South "Wales Borderers did in the previous January. Within three weeks after "occupation by the Royal Munster Fusiliers cases began to show themselves "at first among the young soldiers recently arrived from England, and later "on among men of longer service. After consultation it was decided to move "the camp one and a half miles further west, and up to the time of report "the happiest results have followed the move. In these cases we may con-"clude that impure water and insanitary condition of the soil were the cause "of the outbreak." At Sialkot there were 81 cases and 15 deaths, against 73 and 13 in 1889, 54 admissions and 11 deaths occurred among men of 24 years of age and under. 30 cases and 4 deaths were among men of less than a year's service in the country, and 7 men, of whom 2 died, were in their second year. As in the previous year the artillery suffered most, next the cavalry, among whom the mortality was greatest, and the infantry regiment least. It is stated that there did not seem to have been any special seasonal influence on the prevalence of the disease. It was remarked in the report of the preceding year that the increasing prevalence of enteric fever at Sialkot was believed to have been due to subsoil sewage pollution affecting the water supply, and it is now stated that very careful observations during the year under report have tended to confirm this belief. At Lucknow 76 admissions and 15 deaths occurred, against 111 and 16 in the previous year. Of the cases 58 were men of 24 years of age and under, while 57 were of less than three years' service in India. Touching this the medical officer in charge remarks that "in no previous year has the influence of youth and recent arrival been so "clearly shown. Drafts of 337 young soldiers joined the garrison, and in "addition the 16th Lancers arrived early in October, from which corps there "were 24 admissions in less than three months." Rawal Pindi furnished 65 admissions and 13 deaths, as compared with 73 and 21 in 1889. The cavalry regiment had the largest number of cases, which was also the case in the previous year, but it appears very difficult to assign a reason for this.

At Meerut 64 admissions and 20 deaths occurred, 51 men were 24 years of age or under, and 44 men were in their first year of service in the country. At Ranikhet there were 51 admissions and 13 deaths, as compared with 43 cases and 3 deaths in the previous year, 39 of the cases were in men of 24 years of age or under, and 32 were in men in their first year of Indian service; 8 of the cases were considered to have been contracted before arrival at the station, 35 occurred in the standing camp, and 8 in the permanent barracks. At the contiguous station of Chaubuttia 18 admissions and 5 deaths occurred. Of these cases 8 are believed to have been contracted at Bareilly, or on the march, while the remainder were attributed to an impure water supply. At Agra the cases of enteric fever increased from 21 in the previous year to 45, of which 16 proved fatal. Most of the cases occurred in August and September, and as usual the men attacked were generally young, and most of them only a short time in India. The cause of the disease could not be traced nor the reason why it was so much more prevalent than in former years. In Quetta there were also 45 cases, but only 5 deaths. The medical officer in charge thought the water supply the main factor, the new supply by pipes not having had sufficient time to influence the sick rate. Chakrata gave 44 admissions and 13 deaths, all the cases but one occurred in the second and third quarters of the year, 26 and 17 respectively. Of the cases the medical officer in charge is strongly of opinion that 25 were contracted on the journey to the station, owing principally to impure water supply at the several camps, and that those contracted in the station were chiefly due to the water supply below Kailana having become contaminated. At Subathu there were 34 cases and 8 deaths, of which 27 cases occurred in the third quarter of the year. The cases were scattered over all the barracks, and there were no insanitary conditions to account for the outbreak. At Jhansi 33 admissions and 9 deaths occurred; in the previous year there were also 33 cases, but only 6 deaths; no cause is assigned for the prevalence of the disease, but it is thought that inferior drinks obtained by the men in bazaar may have had to do with some of the cases. There were 27 cases at Umballa, less by 10 than in the previous year, but the deaths were 8 against 2. Of the cases 12 were in men in their first year, and 7 in men in their second year of Indian service. Impure water, milk, and drinks obtained by the men in the bazaars and elsewhere are mentioned as probable causes of the disease. At Allahabad 25 admissions and 10 deaths occurred, as compared with 17 and 6 in 1889. Fifteen of the men attacked had less than a year's service in the country, and six were in their second year of service. Jullundur furnished 20 cases, of which 6 were fatal, as compared with 32 admissions and 9 deaths in the previous year. An impure milk supply was thought to have been the cause in some instances; at any rate after the establishment of a regimental dairy there was some diminution in the number of cases. At Ferozepore 23 cases and 10 deaths occurred, comparing favourably with 37 and 11 in the preceding year. 16 admissions and 11 deaths occurred at Cawnpore, showing an increase of prevalence of the disease, while Jubbulpore, with 15 cases and 3 deaths, shows a decrease in the number of attacks. Meean Meer, with 14 admissions and 7 deaths, shows a marked decline. At Dinapore there were 14 cases and 4 deaths, and at Jutogh 13 cases, none of which proved fatal. At none of the remaining stations did the number of attacks amount to 10, the most notable improvement being shown by the following: Peshawar, 4 cases and 1 death, as compared with 41 and 16 in 1889; Fyzabad, 6 cases and 2 deaths, as compared with 38 and 5; Dum Dum, 6 cases, none fatal, against 30 and 4 deaths; and Mooltan, 8 admissions and 1 death as compared with 30 and 11 deaths. *Bengal.*

Simple Continued Fevers caused 2,752 admissions, being in the ratio of 66·9 per 1,000, which is higher than the corresponding ratio in the previous year by 6·8, but lower than the average rate of the preceding five years by 15·8. There were no deaths. The constantly sick rate, 2·27 per 1,000, was almost the same as in 1889, but below the quinquennial average rate by ·54. Unlike the preceding three years, when the Peshawar district gave the highest admission ratio for these fevers, in the year under report the Lahore district leads with a ratio of 138·6 per 1,000, which is higher by 9·5 than the similar rate in the previous year, and is less by 33·3 than the highest ratio in 1889. The ratio next in order was 127·2 in the Presidency district, an increase of 48·1; this is followed by 107·0 in the Meerut district, which is almost double

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the ratio in the preceding year. The lowest ratio of admission was 1·5 per 1,000 in the Quetta district, against 58·0 in 1889. The ratio next above was 14·5 in Oudh, an increase of 4·6, followed by 18·6 in the Nerbudda district, a decline of 6·7 from the previous year's ratio. The most notable decrease in the prevalence of these fevers occurred in the Peshawar district, the ratio for which, 95·0 per 1,000, is lower than in 1889 by 76·9.

Cholera caused 50 admissions and 41 deaths, being in the ratios of 1·2 and 1·00 per 1,000 respectively as compared with 1·1 and ·86 in the previous year, and with 2·1 and 1·39, the average ratios for the preceding five years. In Abstract XIX. will be found a table taken from the report of the Principal Medical Officer, which shows the stations in the Command at which the admissions and deaths from cholera took place in each quarter of the year. More than half the cases and deaths occurred in the third quarter, and about a fourth in the last quarter of the year. The disease occurred at 14 stations as compared with 15 in the previous year. The greatest number of cases in any station was 18 in Lucknow, where there were also 13 deaths. It is stated that cholera was unusually prevalent in the district as well as in the city during the year. The first case in cantonments occurred on 27th August, and the outbreak continued until 16th September, after which no further case occurred until the 25th, when two military prisoners were attacked. It was hoped then that the outbreak had expended itself, but on the 19th October two patients in hospital were attacked followed by three more, and the last case amongst the troops did not occur until the 30th October. At Umballa there were 8 cases, all fatal. The disease first appeared in a village 23 miles from cantonments, and spread to the Sudder Bazaar within a week : the first case amongst the troops was on 29th June ; there were 4 cases in July, 1 in August, and 2 in September. At Ranikhet 5 cases occurred, all fatal. The disease had been less prevalent in the surrounding villages since the beginning of July, but it commenced among the troops on the 21st. At Muttra there were 5 cases and 4 deaths, one occurred in March, one in October, and 3 in November. Four of the cases occurred in the artillery barracks near the railway station. At Chunar there were 2 fatal cases, and at Dinapore 2 admissions and one death. There were 2 cases, one fatal, at Naini Tal, and also at Meerut. Single fatal cases occurred at Fort William, Fort Allahabad, Shahjehanpur, Agra, Delhi, and Fort Attock.

Dysentery caused 1,112 admissions and 31 deaths, including that of an invalid, being in the ratios of 27·0 and ·75 per 1,000 respectively as compared with 27·5 and ·69 in the previous year, and with 25·6 and ·55 the average ratios for the preceding five years. In Abstract XX. will be found a table taken from the report of the Principal Medical Officer showing the prevalence of dysentery in each of the districts of the Command during the year, and in Abstract XXI. a table showing the prevalence of, and mortality from, dysentery in each quarter of the year. The highest admission ratio of the year was in the Nerbudda district, and was 46·1 per 1,000, which is higher by 10·3 than the ratio in the previous year. The next rate, 44·5, was in the Presidency district, which shows a decline of 11·5; this is closely followed by 44·1 in the Oudh and Rohilkhand districts respectively, being in the former an increase of 17·2, but in the latter a decrease of 8·2, as compared with the ratios of 1889. The admission rate for Quetta was 20·2, which is more than double that of the previous year. The lowest ratio occurred in the Peshawar district, 12·1 per 1,000, a decine of 2·1 ; the ratio next above was 14·8 in the Lahore district, a marked decrease, and then 19·7 in the Rawal Pindi district, an increase of 5·6. The ratio of mortality was highest in Bundelkhand, 2·09 per 1,000, next in Oudh, 1·31, followed by 1·14 in the Peshawar district. The Meerut district had a death ratio of 1·05, and the Quetta district one of ·99. In the Lahore circle no death occurred, and the Allahabad district shows the low ratio of ·30, the Rawal Pindi district that of ·35, and the Presidency district that of ·37. With regard to seasonal prevalence it will be observed that the highest admission ratio, 9·5 per 1,000, occurred in the fourth quarter of the year, the next, 8·0, in the third, followed by 5·2 in the second, and by 4·3 in the first quarter. The previous year gave the highest rate in the third quarter, followed by the fourth, second, and first. Mortality was greatest in the fourth quarter, ·28, next in the third, ·24, then in the second, ·12, and the first ·10 per 1,000.

Other Diseases of this sub-group included 1,300 cases of influenza, one fatal, 16 of mumps, one of diphtheria, and one of epidemic diarrhœa. The admission rate was 32·0 per 1,000 as compared with 1·0 in the previous year. The exceptional visitation of the influenza epidemic would, it is said, account for quite two thirds of the increase of admission rate. The highest ratio for admission was 79·6 per 1,000 in the Allahabad district, the next, 77·5, in Oudh, 61·8 in Rohilkhand, and 53·7 in the Presidency district; the lowest ratio was 6·1 in the Peshawar district, the next above, 11·4, in the Lahore district, and 12·6 in the Meerut district. The death occurred at Rawal Pindi. *Bengal.*

Malarial Fevers.—These included 16,337 cases of ague, 354 of remittent fever with 14 deaths, and 197 with 2 deaths of malarial cachexia, giving a total of 16,888 admissions and 16 deaths, with an average constantly sick from these causes of 492·86 men. The admission ratio, therefore, was 410·5 per 1,000, which is higher by 68·7 than the corresponding rate in the previous year, and by 27·6 than the average rate for the preceding five years. The death rate, ·39, was lower in these comparisons by ·6 and ·19 respectively, while the constantly sick rate was higher in both by ·77. The highest ratio of prevalence, as in the previous year, was in the Nerbudda district, and was 926·4 per 1,000, an increase of 69·5. This was followed by 703·4 in Bundelkhand, an increase of as much as 218·0, then 622·9 in the Peshawar district, a slight decrease from the previous year. The Presidency district, with a ratio of 582·3, showed the greatest increase of all the districts, the rate being more than two and a half times that of the previous year. The ratio in the Lahore district was 578·9, that in Meerut 503·3, and that in the Rawal Pindi district 447·2, all of which are in excsss of corresponding rates in 1889. The lowest ratios were those in Rohilkhand, 100·4, in Oudh, 162·6, and Sirhind, 243·2, which was, however, more than double the ratio in the preceding year. The lowest ratios in the previous year were also in these three districts, but in inverse order. The ratio for troops on the march, 215·8 per 1,000, is identical with that for 1889. The deaths were distributed over eight districts, 4 being in that of Lahore, 3 in that of Peshawar, 2 each in those of Allahabad, Bundelkhand, and Meerut, and, in those of the Presidency, Oudh, and Rohilkhand respectively. As in the previous year there were no deaths in the Sirhind and Quetta districts, neither was there a death in the Rawal Pindi district, where in 1889 five occurred.

Septic Diseases caused 122 admissions and 6 deaths, being in the ratios of 3·0 and ·15 per 1,000, as compared with 1·7 and ·10 in the preceding year. The cases included 120 of erysipelas, with five deaths, one fatal case of pyæmia, and one case of sloughing phagedæna. The Rawal Pindi district, which had 41 cases and a death under this head in the previous year, furnished 35 in the year under report, two of which were fatal. In the Meerut district there were 19 cases, but no death. All the other districts contributed cases varying from 9 and 8 in the Rohilkhand and Sirhind districts, to one in the Lahore, Nerbudda, and Bundelkhand districts respectively.

Venereal Diseases.—The number of admissions for *primary syphilis* was 4,376, being in the ratio of 106·4 per 1,000, which is lower by 18·0 than the corresponding rate in the previous year, but higher than the average rate of the preceding four years by 9·2. The number of men constantly sick from this disease alone was 386·00, equal to a ratio of 9·38, a decrease of ·53 from the last year's rate, but above the average rate by 2·07. Including the sickness for simple venereal ulcer, for which there were 4,714 admissions, and 343·05 men were constantly sick, the admission ratio for primary venereal sores was 220·9 per 1,000, which is lower than that in the previous year by 13·5, but above the average rate of the previous five years by 55·8; the ratio of constantly sick was 17·72 per 1,000, an increase of ·11 on the last year's rate, and one of 6·22 on the quinquennial average rate. The admissions for *secondary syphilis* were 2,478 in number, and there were 3 deaths from this cause. The ratio of admission was equal to 60·2 per 1,000, which is higher than that in the previous year by 7·9, and higher than the five years' average rate by as much as 25·2. The number of men constantly sick from this affection was 240·78, equal to a ratio of 5·85 per 1,000, an increase of ·99 on the ratio in 1889, and one of 2·70 on the average ratio. *Gonorrhœa* caused 7,598 admissions, the ratio being 184·7 per 1,000, which is lower than the ratio in the preceding year by 3·0, but higher than the average rate of five

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years by 14·0; the number of men constantly sick was 546·96, being in the ratio of 13·30 per 1,000, which is lower than in 1889 by ·37, but above the average rate by 1·63. Including all forms of venereal disease, the ratio of admission was 465·8 per 1,000, which is lower by 8·6 than the corresponding rate in the previous year, but is higher by 95·0 than the quinquennial average rate. The ratio constantly sick was 36·87 per 1,000, which implies that as many as 1516·79 men, or rather more than a battalion and a half, were lost to the efficient strength of the army in Bengal on account of these diseases. Compared with the corresponding rate in the previous year, an increase of ·73 is observed, but compared with the average rate of the preceding five years there is an increase of 10·55.

Comparing the ratios of prevalence of the different forms of venereal disease in the various districts, shown in Abstract XVI., it is observed that the highest admission ratio for primary syphilis was 178·9 per 1,000 in the Oudh district, slightly in excess of the last year's rate; this was followed by 171·5 in the Rohilkhand district, which gave the highest rate, 258·8, in the previous year; the next rate was 157·3 in Bundelkhand, an increase of 69·0, and then the Rawal Pindi district, 143·2, a decline of 50·3. The lowest ratio of admission was 32·3 in the Meerut district, a decrease of 17·8 from the rate in the previous year; the next above was 39·8 in the Peshawar district, which gave the lowest rate in the preceding year, 17·4: the third ratio was 42·6 in the Nerbudda district, a decrease of 26·3. The highest ratio of prevalence of secondary syphilis was 91·9 per 1,000 in the Presidency district, an increase of 13·2 from the rate in the previous year, closely followed by 91·1 in the Rohilkhand district, a slight increase; the next ratio was 88·0 per 1,000 in Bundelkhand, an increase of as much as 37·7. Allahabad, with 85·4, shows an increase of 16·9, and Nerbudda, with 79·8, one of 28·3; Rawal Pindi also, with a ratio of 66·3 shows an increase of 23·0. The lowest ratio of admission was 30·7 in the Peshawar district, as against 17·7 in 1889; the ratio next above being 36·8 in the Meerut district, a fractional increase, and 37·5 in Quetta, a decline of 18·2. The ratio in the Lahore district, 57·3, has also decreased by 15·0. The highest ratio for gonorrhœa was 284·3 per 1,000 in the Allahabad district, an increase of 21·6 on the last year's rate; the next, 266·4, occurred in Rohilkhand, an increase of 42·4, then 231·7 in Oudh, an increase of 21·0. The Quetta district, as in the previous year, gave the lowest rate of prevalence of this disease; but it does not compare favourably with the previous year, the rate having risen from 47·1 to 89·8 per 1,000. The ratio next above was 103·4 in the Peshawar district, a decrease of 5·6, then 131·6 in Sirhind, a decline of 20·0 from the previous year's rate. The most marked decrease occurred in the Bundelkhand district, where the rate fell from 294·4 in 1889 to 192·3 in the year under report. The Nerbudda and Meerut districts also show an improvement in this respect. Taking these venereal diseases together, the highest ratio of admission was 529·0 per 1,000 in the Rohilkhand district, followed by 481·4 in the Allahabad district, 463·5 in Oudh, and 437·6 in Bundelkhand; in the previous year, also, these four districts gave the highest ratios of prevalence, and in the same order, except that the last two have changed places. The lowest admission rate was 173·8 in the Peshawar district; the next above, 178·7 in the Quetta district, 237·2 in the Meerut district, and 280·2 in the Sirhind district. In these districts, also, and in the same order, were the lowest ratios found in 1889. Compared with the return for the previous year there is an increase of admission rate in Oudh by 37·6, in the Peshawar district by 29·7, in the Allahabad district by 18·9, and in Bundelkhand by 4·6. In all the other districts a decrease is observed, the most marked being 71·7 in the Lahore district, 47·4 in the Meerut district, and 43·8 in Rohilkhand. It will have been noticed from the figures given above that while a slight diminution has occurred in the ratio of primary venereal sores from that in the preceding year, the constitutional form of the disease has still further increased in prevalence, and this is particularly noticeable in comparing the ratio of admission for secondary disease in 1889 and 1890, 52·3 and 60·2 per 1,000, with the ratios in the three previous years, 1886–8, viz., 33·1, 27·2, and 30·8 per 1,000 respectively. The reports of medical officers at several of the large stations allude to this increased prevalence of constitutional disease.

Hydrophobia.—One fatal case of this disease is recorded. It occurred in the month of March at Mooltan, in a young soldier, who stated that he had received a slight bite from a dog nine months previously; the case terminated fatally within twenty-four hours. *Bengal.*

Parasitic Diseases caused 116 admissions and 1 death. The ratio of admission was 2·8 per 1,000, a decrease of 1·2 as compared with the rate in the previous year. The highest ratio of prevalence was 4·8 in the Presidency district against 2·7 in 1889, followed by 4·4 in the Nerbudda district, and 4·2 in Bundelkhand; the lowest ratio was ·9 in the Allahabad district; the next above, 1·5 in Quetta, and 2·0 in Sirhind. The admissions included 98 from tænia solium and 12 from tænia mediocanellata. The death is recorded as due to cysticercus of the brain.

Scurvy caused 19 admissions against 23 in the previous year; the admission rate, ·5 per 1,000, is identical in the two periods. There were 8 cases in the Meerut district, 4 each in Oudh and the Lahore district, 2 in the Quetta district, and one in the Presidency district.

Alcoholism.—340 admissions and 3 deaths are returned. The admission rate, 8·3, is lower than that in the previous year by 3·1, and a good deal below the average rate. The highest admission ratio was 20·6 per 1,000 in the Allahabad district; the next, 15·1, in the Presidency district; the lowest ratio was 3·2, both in the Lahore district and Rohilkhand, the next above being 4·4 in the Nerbudda district, and 4·9 in Sirhind. Of the 340 admissions during the year only 7 cases were returned as delirium tremens. The deaths were returned under the head of alcoholism.

Debility, &c.—The admissions were 932, and there was one death, that of an invalid, recorded. The admission ratio, 22·7 per 1,000, is fractionally lower than that in the previous year, but rather above the average rate of five years. The highest ratio in any district was 43·5 in the Lahore district, an increase of 13·7 on the previous year's ratio; this is attributed to climatic influence after repeated attacks of fever. The next ratio was 36·0 in Oudh, an increase of 10·1, and then 32·9 in the Meerut district, a decrease of 7·4. The lowest ratio, as in the previous year, was in the Quetta district, 3·9, the next above, 12·1, in the Peshawar district, less than half the previous year's rate, and then 14·6 in Bundelkhand, a decrease of 6·8.

Rheumatism.—1,336 admissions and 3 deaths are recorded. The admission ratio, 32·5 per 1,000, is higher than the corresponding ratio in the previous year by 1·5, and above the average rate of five years by a small fraction. The highest ratio of prevalence was 47·1 per 1,000 in the Meerut district, an increase of 10·7 on that in the preceding year; the next was 42·3 in the Presidency district, an increase of 18·0, and the third in the Quetta district, 41·5, an increase of 16·6; the lowest rate was 19·6 in Rohilkhand, this being less than half the previous year's rate; the next above, 22·7, in the Peshawar district, an increase of 6·0, and 23·0 in the Nerbudda district, a decrease of 4·1. Of the total admissions, 116, and the 3 deaths, were due to rheumatic fever.

Tubercular Diseases caused 126 admissions and 34 deaths, including those of 15 invalids after leaving the Command. The admission rate, therefore, was 3·1, and the death rate ·83 per 1,000, as compared with 3·8 and 1·00 in the preceding year, and with 4·1 and ·95, the average rates for the previous five years. Some cases occurred in all the districts, the highest ratio being 5·3 in the Nerbudda district, 4·2 each in Oudh and Sirhind, and 3·9 in Rohilkhand; the lowest ratio again occurred in the Presidency district, 1·8 per 1,000, the next above being 2·1 in the Meerut district, and 2·3 in the Lahore district. All the admissions but two were on account of lung affection, and all the deaths in the country, as well as those of invalids, were also due to this cause.

Other diseases of the last group of general diseases caused 321 admissions and 5 deaths, being in the ratios of 7·8 and ·12 per 1,000 as compared with 9·6 and ·14 in the preceding year. Non-malignant new growths were the chief causes of admission, and there were also 5 admissions for malignant disease, 92 for anæmia, 9 for purpura, 8 for scrofula, and 5 for diabetes. The deaths were 3 from cancer, one from fibroma, and one from diabetes.

LOCAL DISEASES.—*Diseases of the Nervous System* caused 367 admissions and 13 deaths, which give the ratios of 8·9 and ·32 per 1,000, the former

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being lower than in the previous year by ·9 and than the average ratio of the preceding five years by 3·3, while the latter is higher than in 1889 by ·03, but below the average by ·17. Of the total number of admissions, 62, or 1·5 per 1,000, were cases of mental disease, as compared with 69 or 1·6 per 1,000 in the previous year. Some instance of mental disease occurred in every district, the highest ratio, 3·4 per 1,000, being in the Peshawar district, the next, 2·6, in the Presidency district, and 2·3 in Rohilkhand, while the lowest was ·5 in the Meerut and Quetta districts respectively, the next above ·7 in Sirhind and ·8 in the Lahore district. Excluding mental diseases, the highest ratio for nervous diseases was 14·7 per 1,000 in Oudh, an increase of 3·2 on the last year's rate, next 9·3 in Sirhind, an increase of 1·8, then Rohilkhand 8·4, a decrease of 3·1; the lowest admission ratio was 1·8 in the Nerbudda district, a decrease of 5·2, the next above being 4·2 in the Allahabad district, a decrease of as much as 7·0, and then 5·0 in Bundelkhand, a decrease of ·4 from the last year's rate. The highest mortality rate was ·98 per 1,000 in Sirhind, the next being ·53 in the Meerut district, and ·42 in Bundelkhand. In the Allahabad, Nerbudda, and Quetta districts there was no mortality. The principal causes of admission were neuralgia 203 cases, epilepsy 29, paralysis 21, and vertigo 13. The deaths were 7 from inflammation of the brain or its membranes, 2 from paralysis, one from apoplexy, and one from abscess, softening and cyst of brain respectively.

Diseases of the Eye were the cause of 575 admissions, equal to a ratio of 14·0 per 1,000, which is lower by 1·1 than the corresponding rate in the previous year, and below the average ratio of five years by ·2. The highest ratio of prevalence was, as in the preceding year, in Rohilkhand, and was 19·3 per 1,000, but this is considerably lower than in that year; the next ratio was 17·6 in Oudh, a fractional decrease, followed by 16·0 in the Meerut district, an increase of 5·2. The lowest ratio was 8·4 in the Quetta district, a decrease of 2·5; the next above was 9·2 in the Presidency district, and 11·5 in the Nerbudda district. Conjunctivitis caused the bulk of the admissions, as many as 412 cases being returned. Among the rest the principal were corneal ulcer 29, iritis 28, and hæmatoma of the eyelids 25.

Diseases of other Organs of Special Senses.—There were 656 admissions, being in the ratio of 15·9 per 1,000, a decrease of 1·0 from the last year's rate, and above the quinquennial average rate by 1·6. The highest ratio of prevalence for these affections was in Oudh, 27·6 per 1,000, a decrease of 7·2 from the rate in 1889; the next was 21·6 in the Peshawar district, an increase of 5·3, and then 21·3 in the Nerbudda district, an increase of 10·0; the lowest ratio was 7·1 in Sirhind, a fractional decrease, the next being 10·8 in Bundelkhand, a decrease of 9·0, and 11·4 in the Quetta district, a fractional increase. Of the admissions 29 were caused by affections of the nose, and the remainder by aural diseases, principally inflammation of the external meatus.

Diseases of the Circulatory System were the cause of 482 admissions and 13 deaths, including 1 of an invalid, being in the ratios of 11·7 and ·32 per 1,000, which are below the corresponding rates in the previous year by 1·1 and ·08, and below the average ratios for the preceding five years by ·9 and ·09 respectively. The highest admission ratio in any district was 29·3 per 1,000 in the Nerbudda district which showed the lowest rate 3·5 in the previous year, the next ratio was 23·5 in the Presidency district, an increase of 7·7, followed by 21·6 in the Meerut district, an increase of 6·7, and 19·7 in Oudh, a decrease of 5·0; the lowest ratio was 5·0 in Bundelkhand, the next 5·4 in the Quetta district, and 6·1 in the Peshawar district, all of which are below corresponding ratios in 1889. The highest rate of mortality, ·79 per 1,000, is shown in the Meerut district, the next, ·53, in Oudh, and then ·42 in Bundelkhand. There was no mortality in the Nerbudda, Presidency, Rohilkhand, or Quetta districts. The principal causes of admission were palpitation 345 cases, valvular disease of the heart 76, and varix 28 cases. The deaths were 7 from fatty degeneration of the heart, 2 from valvular disease of the heart, and pericarditis, dilatation of the heart and syncope one respectively. The death of the invalid was due to valvular disease of the heart.

Diseases of the Respiratory System caused 1,909 admissions and 72 deaths, including 6 of invalids. The admission rate, therefore, was 46·4, and the death rate 1·75, which are higher than the corresponding rates in the previous year

by 6·5 and 1·01, and than the average ratios of the preceding five years by 8·6 and ·87 per 1,000. The ratio of constant inefficiency was 2·77 per 1,000, an increase of ·17. This increase of prevalence and mortality is said to be in some measure due to the epidemic of influenza. As in previous years, the highest admission rate in any district was 91·3 per 1,000 in that of Quetta, though rather lower than in 1889. The ratio next in order was 68·4 in the Rawal Pindi district, an increase of 14·6, followed by 60·7 in the Presidency district, an increase of 26·7. The lowest ratio was 24·2 in Sirhind, then 34·7 in the Meerut district, and 36·3 in the Nerbudda district, all of which are higher than the previous year's rates. The highest ratio of mortality was 3·16 in the Meerut district, more than double the rate in 1889, then 2·77 in the Rawal Pindi district, 1·84 in the Presidency district, and 1·69 in the Lahore district, all of which show a considerable increase. There was no death in the Nerbudda district, and the ratio in Bundelkhand was only ·42 per 1,000, almost identical with that in 1889. Of the admissions, 1,516 were for bronchitis, 239 for pneumonia, 69 for pleurisy, and 32 for pneumonic phthisis. The deaths in the country were 51 from pneumonia, 5 from pneumonic phthisis, 2 each from bronchitis, pleurisy, and empyema, and one from œdema of the glottis, laryngitis, pulmonary apoplexy, and abscess of the lung respectively. The deaths of invalids were three from bronchitis, two from pneumonia, and one from pneumonic phthisis. *Bengal.*

Diseases of the Digestive System.—5,391 admissions and 72 deaths, including 4 of invalids, are returned. The admission ratio, therefore, was 131·0, and the death rate 1·75 per 1,000. The admission rate is lower than that of the previous year by 12·2, and than that of the average of the preceding five years by 30·2; the death rate is lower than in 1889 by ·04, but is above the quinquennial average by ·06 per 1,000. The highest ratio of prevalence of these diseases in any district was 162·9 per 1,000 in that of Quetta, which is higher than in the preceding year by 15·7, the next ratio was 155·5 in Oudh, a decrease of 29·8, followed by 152·3 in the Lahore district, a fractional increase, and 150·9 in the Meerut district, an increase of as much as 39·7. The lowest ratio of admission was 98·1 in the Peshawar district, a decrease of 24·8, the next above being 111·8 in Sirhind, a decline of 1·1, and then 119·5 in the Presidency district, a decrease of 18·7. The highest mortality ratio was 3·31 per 1,000 in the Presidency district, an increase of ·22 on the previous year's death rate; the next was 2·47 in the Quetta district, an increase of 1·11, followed by 2·10 each in the Oudh and Meerut districts. In the Peshawar district there was no mortality. The Rawal Pindi district gave a death rate of 1·04 against ·82 in 1889, and Bundelkhand a rate of 1·25 against 1·65. The principal causes of admission were affections of the mouth and throat 1,590 cases, sore throat and quinsy alone showing 1,200; diarrhœa caused 1,352 cases of illness, dyspepsia 718, and hepatic disorders 1,070. The last named included hypertrophy and congestion of the liver 380 cases, hepatitis 369, perihepatitis 3, cirrhosis 3, hepatic abscess 74, jaundice 239, and inflammation of hepatic ducts one case. Of the cases of liver abscess, 24 were associated with dysentery. The deaths in the country comprised 49 from hepatic abscess, 6 from peritonitis, 2 from intestinal hæmorrhage, 2 from diarrhœa, 2 from enteritis, 2 from intestinal obstruction, and one from typhlitis, cirrhosis of liver, fatty liver, hepatitis, and abscess of subperitoneal tissue respectively. The deaths of invalids were two from abscess of liver, one from jaundice, and one from ascites.

In Abstract XX. will be found a table taken from the report of the Principal Medical Officer showing the prevalence of dysentery, diarrhœa, and hepatic diseases in each of the administrative districts of the Command, and in Abstract XXI. is a table showing the prevalence of, and mortality from, these diseases in each quarter of the year. The sickness and mortality from dysentery has been alluded to on a previous page. The admission ratio for diarrhœa was 32·9 per 1,000, as compared with 36·6 in the preceding year, and the death rate was ·05 per 1,000, as compared with ·09. The highest ratio of prevalence in any district was 42·3 per 1,000 in the Lahore district, a decline of 2·4 from the last year's rate; the next ratio was 39·4 in the Meerut district, an increase of 19·8; this was followed by 36·0 in Oudh, 35·4 in the Allahabad district, 34·7 in Rohilkhand, 34·6 in the Quetta district, and 34·3 in Sirhind. The lowest ratio, as in the previous year, was in the Peshawar district, 13·6 per 1,000, a decrease of 5·2. With regard to seasonal prevalence,

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as usual the highest admission rate occurred in the third quarter of the year, 13·0 per 1,000, the next rate was 8·7 in the fourth quarter, 6·3 in the second, and 4·8 in the first quarter. The two fatal cases occurred in the third quarter. The admission ratio for hepatic diseases was 20·1, and the mortality rate 1·24 per 1,000, as compared with 23·2 and 1·31 respectively in the preceding year. The greatest prevalence of these diseases in any district was in Rohilkhand, the ratio being 33·8, next in Oudh, the rate being 33·4 per 1,000. These ratios, however, compare favourably with those in the previous year, as a decline of 12·1 and 6·8 respectively is observed in them. The third ratio, however, 31·7 in Bundelkhand, shows an increase of 9·4. The lowest ratio, 5·7, occurred in the Peshawar district, a considerable decrease from the previous year's rate; the next above was 10·9, in the Quetta district, a slight increase, and then 11·1 in the Rawal Pindi district, a marked decrease. The highest ratio of mortality was 2·57 per 1,000 in the Presidency district, but this was lower than in 1889; the next was 1·97 in the Quetta district, followed by 1·84 in Oudh, and 1·61 in Rohilkhand. In the Peshawar district there was no mortality, and in the Rawal Pindi district the rate was only ·52, the next above being the Meerut district with ·79 per 1,000. As to seasonal prevalence, the highest admission ratio was 5·7 per 1,000 in the fourth quarter of the year, followed by 5·3 in the third, 4·8 in the second, and 4·4 in the first. In the preceding year the highest ratio was in the third quarter, followed by the fourth, second, and first quarters. Mortality was also highest in the fourth quarter, ·51 per 1,000, next in the third, ·26, then in the first, ·25, and last in the fourth quarter, ·24 per 1,000. This sequence differs from that in the previous year, when the highest rate was in the third and the least in the second quarter, the fourth and first being intermediate.

Diseases of the Lymphatic and Glandular System were the cause of 1,687 admissions and one death. The ratio of admission, 41·0 per 1,000, is higher than the corresponding rate in the previous year by 11·5, and than the average rate for the preceding five years by 19·4. The highest ratio of prevalence in any district was 70·2 per 1,000 in Allahabad, an increase of 7·7 on that of the previous year, the next was 57·6 in the Nerbudda district, a decline of 8·7, followed by 54·1 in Sirhind, an increase of 24·8. The lowest ratio was 15·8 in the Quetta district, but this was more than double the rate in 1889, the ratio next above was 25·0 in Oudh, and 28·6 in Rohilkhand, both being in excess of corresponding ratios in the previous year. The principal causes of admission were inflammation and suppuration of lymph glands, many of them doubtless the result of venereal infection. There were also 125 admissions for diseases of the spleen, and a death is recorded from hypertrophy of the spleen.

Diseases of the Urinary System.—70 admissions are returned and 2 deaths, including that of an invalid. The admission rate, 1·7 per 1,000, is lower than in the preceding year by ·6, and is also below the average rate. The highest admission rate in any district was 3·5 per 1,000 in that of Nerbudda, and is identical with that in 1889; the next ratio was 2·4 in the Meerut district, a decrease of 1·8, and the same in the Allahabad district, a fractional decrease. The lowest ratios were ·6 and ·8, in Rohilkhand and Bundelkhand respectively, both being much lower than the previous year's rates. The principal causes of admission were Bright's disease, 14 cases, acute nephritis 12, one of which proved fatal, cystitis 13, and incontinence of urine 16 cases. The death of the invalid was due to Bright's disease.

Diseases of the Generative System were the cause of 5,355 admissions and 1 death. The admission ratio, therefore, was equal to 130·2 per 1,000, which is above the corresponding rate in the previous year by 2·5, and is considerably above the average rate. The highest admission ratio in any district was 289·3 per 1,000, in that of Peshawar; this shows an increase of 104·6 over the last year's rate; the ratio next in order was 213·7, in the Nerbudda district, an increase of 40·0, followed by 211·0, in the Allahabad district, an increase of 61·8. The lowest ratio was 73·1, in the Quetta district, but this is more than double the rate in 1889; the ratio next above was 74·6, in Oudh, also a considerable decrease, and then 76·9, in Rohilkhand, a slight excess on the last year's rate. Of the total number of admissions over seven eighths were cases of simple venereal ulcer; and among the remainder were 337 for orchitis,

and 87 for urethral stricture. The fatal case was one of abscess of the prostate gland. *Bengal.*

Diseases of the Organs of Locomotion caused 274 admissions, equal to a ratio of 6·7 per 1,000, which is lower by ·8 than the similar rate in the previous year, but about the average rate of five years. The rates of prevalence in the different districts ranged from 10·8, in the Meerut district, to 2·9 per 1,000, in Bundelkhand, and excepting three, in which there was a slight increase, compare favourably with the corresponding figures for 1889. The disease causing the highest number of admissions was synovitis.

Diseases of the Connective Tissue.—844 admissions are returned; the admission ratio was 20·5 per 1,000, a decline of 1·7 from the previous year's rate, and fractionally below the quinquennial average rate. The highest ratio of prevalence was 33·4 per 1,000, in Bundelkhand, and the lowest 15·1 in Rohilkhand. In four districts the ratios were somewhat increased, but in the remainder a decrease is observed.

Diseases of the Skin caused 2,523 admissions, being in the ratio of 61·3 per 1,000, which is lower than the corresponding rate in the previous year by 12·1, and than the average rate of the preceding five years by 11·1. As in the previous year, Oudh was the district showing the greatest prevalence of skin diseases, the ratio being 90·4, which, however, is a decrease of 22·1 from that in 1889; the next ratio was 85·5 in the Meerut district, an increase of 30·5, followed by 84·6 in the Presidency district, an increase of 7·0; the lowest ratio was again furnished by the Quetta district, 36·5, an increase of 2·1 on the last year's rate; next above came 39·6 in Rohilkhand, a decline of 33·8. In four districts an increase of admission rate occurred, and in eight there was a decrease. Boils, ulcers, whitlow, eczema, and ringworm were the prevailing diseases, and together furnished seven-eighths of the admissions.

Poisons.—6 admissions and 3 deaths are recorded, as compared with 17 admissions and 6 deaths in the preceding year. Of the admissions one was a case of poisoning by fish, and five were cases of poisoned wounds by stinging insects. Of the deaths two were from alcoholic poisoning, and one from poisoning by hydrocyanic acid, suicidal.

Injuries.—The admission ratio for injuries was 102·5, and the death rate 1·92 per 1,000, the former being lower than the corresponding rate in the previous year by 18·5, and the latter lower by ·53 per 1,000. The ratios are also lower than the quinquennial average rates. The admissions for general injury numbered 96, and there were 44 deaths. The admissions comprised 81 cases of sunstroke or heat apoplexy, 6 of multiple injury, 6 of burns or scalds, 2 of starvation, and 1 of lightning stroke. The deaths were 22 from heat apoplexy, 3 from sunstroke, 10 from asphyxia by drowning, 4 from plugging of air passages by foreign substances, and one from burn, lightning stroke, multiple injury, asphyxia from compression of chest, and exhaustion respectively. Local injuries caused 4,124 admissions and 35 deaths against 4,918 and 31 in the preceding year. The chief causes of admissions were abrasions, contusions, wounds, and sprains, which together furnished 3,776 of the cases. Among the remainder were 204 cases of fracture, 47 of dislocation, 9 of concussion of the brain, and 4 of compression of the brain. The deaths included 10 from fractures, 8 from gunshot wounds, 6 from compression of the brain, 3 from rupture and laceration of the spleen, 3 from contusion of the abdomen with rupture of viscera, 2 from wounds, 2 from dislocation of the spine with fracture, and one from concussion of the brain.

One of the deaths from rupture and laceration of the spleen was a case of homicide, the man, at Campbellpore, having been kicked on the left side by a comrade. This was the only case of homicide during the year. There were 10 cases of suicide as compared with 11 in the preceding year. 7 of the cases were due to gunshot wound of the head, 2 to cut throat, and one to poisoning by hydrocyanic acid. In eight of the cases the verdict given at the inquest was one of temporary insanity, and in two a verdict of suicide was returned. In one case disappointment in love was given as the supposed cause, and in another drink and real and imaginary troubles, but in none of the others could any motive be assigned for the act. The cases were single ones in different corps. In one case the suicide was 22 years of age, in three the ages of the men were over 25 and under 30 years, in five the ages were between 30

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and 35 years, and one man was 38 years of age. With regard to length of service one man had 2 years' service, three had 5 years, one had 7 years, one 9 years, one 12 years, and two were over 20 years' service. There was a case of death by drowning, in which the man jumped into the Ganges canal, and was drowned; but the verdict given at the inquest was one of death by misadventure. There were 9 cases of self-inflicted injuries, 6 being attempts at suicide by cut throat, induced in four instances by drink, and in two by barrack room ridicule. In one of these cases, however, it is thought that only a pretended attempt was made, and suicide was not really contemplated. One man attempted suicide by hanging, he was subsequently invalided for melancholia. One man shot himself in the chest with his rifle, the presumed cause being money difficulties; and there was one case of gunshot wound of left hand, the man was subsequently punished by sentence of court martial.

Among the surgical operations performed during the year are amputation of the forearm on account of gunshot wound, one of the thigh at the middle third in a case of periostitis, and several minor amputations, all with satisfactory results. There were two cases of trephining, one for abscess of the brain and one for fracture of the skull, both successful. There were several operations for removal of tumours, including a case of fibroma, one of lipoma, and one of exostosis, all with satisfactory results. A case of iridectomy was performed with partial success, while excision of the eyeball was undertaken successfully in five instances. Two cases of laryngotomy were also successful, but of three instances of paracentesis thoracis only one was successful, the other two terminating fatally. There were 25 operations for hepatic abscess, of which 12 cases ended fatally; five of these were by incision and drainage, all fatal, seventeen were by aspiration and opening, of which six died, and three were by tapping, of which one died. Death also resulted in a case of paracentesis of the abdomen. Perineal section was successfully performed in three cases of urethral stricture. In addition to those already mentioned there were many operations of a minor character which, with the exception of a case of tenotomy on account of malformation of toe, where no improvement took place, gave results of a satisfactory character.

Invaliding.—The number of men invalided home during the year was 1,036, equal to a ratio of 25·18 per 1,000, which is higher by ·71 than the corresponding ratio in the preceding year, and lower by ·83 than the average ratio for the previous ten years. With regard to the invaliding in the different arms of the service it will be observed in Abstract XLI. that the invaliding ratio in the cavalry was 21·55 per 1,000, a fractional decrease from the similar rate in the previous year. The highest invaliding rate in any regiment of cavalry was 39·18 per 1,000 in the 2nd Dragoon Guards, stationed at Sialkot; the next rate was 34·39 in the 17th Lancers at Lucknow, and then 22·61 in the 5th Lancers at Meerut; there was no invaliding in the 16th Lancers, which arrived from England at the latter end of the year; the lowest recorded ratio was 5·40 per 1,000 in the 1st (King's) Dragoon Guards at Muttra, the next above being 15·33 in the 3rd Dragoon Guards at Rawal Pindi. In the Artillery the invaliding ratio was 21·93 per 1,000, a decrease of 3·64 from the rate in the previous year. Excluding the batteries which were only a short time in the Command, the highest invaliding rate in any battery was 62·07 per 1,000 in T Battery, Royal Horse Artillery, at Rawal Pindi, the next was 55·56 in the 31st Field Battery at Barrackpore, followed by 49·65 in the 8th Field Battery at Rawal Pindi, and 49·59 in the 68th Field Battery at Meean Meer. There was no invaliding in the following batteries, B Battery, Royal Horse Artillery, Meerut, 4th Field Battery, Dinapore, No. 3 Mountain Battery, Darjeeling, No. 24 Battery, Southern Division, Campbellpore, and No. 16 Battery, Western Division, Roorkee; Q Battery Royal Horse Artillery at Umballa gave the low ratio of 6·58, the next above being 6·90 in the 44th Field Battery, Peshawar, and the 50th Field Battery, Campbellpore, and then 7·09 in the 78th Field Battery at Saugor. In the infantry the invaliding ratio was 23·16 per 1,000, an increase of ·53 on the corresponding rate in the previous year. The highest ratio in any battalion was 76·0 per 1,000 in the 1st Battalion Royal Welsh Fusiliers at Lucknow, followed by 62·37 in the 2nd Battalion Scottish Rifles, also at Lucknow, 46·75 in the 2nd Battalion Derbyshire Regiment at Jubbulpore, and 41·26 in the 2nd Battalion Liverpool

Regiment at Fyzabad; the lowest ratio was 1·22 per 1,000 in the 2nd Battalion King's Own Scottish Borderers at Subathu on arrival from England in January, the next above was 4·20 in the 2nd Battalion Manchester Regiment at Sialkot, 5·19 in the 2nd Battalion Durham Light Infantry at Quetta, and 5·32 in the 2nd Battalion Highland Light Infantry at Peshawar, with a detachment at Cherat. *Bengal.*

The influence of age and length of service in the country are shown in tables given on a previous page. It will be observed that the invaliding ratio among men under 20 years of age was small, 8·12 per 1,000, that among men between 20 and 25 years of age increased to 27·46, falling slightly to 24·15 among men between 25 and 30 years of age, and still further to 20·20, among men in the next quinquennial period of age, after which there was a marked increase, to 34·11, among men between 35 and 40 years of age, and still further, to 40·00, among men over 40 years of age. This sequence of ratios at the various age periods is very similar to that which occurred in the preceding year. Comparing the ratios of the different age periods in the two years a decrease is observed in the ratios among men under 20 years, between 25 and 30 years, and over 40 years; the ratios of men at other age periods have all increased, but only one, that among men between 35 and 40 years, to any extent, the increase in this case is equal to 11·73. With regard to the influence of length of service in the country it is observed that the invaliding ratio of men under one year's service in the country was low, 10·40 per 1,000, but it increased to 24·24 among men in their second year of service, decreased slightly, to 23·05, among men in their third year, rising to 24·26 among men in their fourth year of service, to 31·34 among men in their fifth year, further to 33·84 among men between five and ten years' service, and to 42·98 among men over ten years' service in the country. There is no great similarity of the sequence of these ratios with that in the preceding year when the rates increased steadily up to the fourth year of service in the country and then declined. Compared with corresponding ratios in the previous year those of men in their first, third, and fourth years of service in the country have declined, the most marked decrease being 5·44 among men in their fourth year of service; the remaining ratios all show an increase, especially marked, 24·48, in the rate among men over 10 years' service in the country, due to 56 men being invalided out of a small average annual strength.

The principal causes of invaliding were dysentery 38 cases, or ·92 per 1,000; malarial fevers 75 cases, or 1·82 per 1,000; constitutional syphilis 82 cases, or 1·99 per 1,000; debility 145 cases, or 3·52 per 1,000; rheumatism 37 cases, or ·90 per 1,000; tubercular diseases 78 cases, or 1·90 per 1,000; diseases of the nervous system 87 cases, or 2·11 per 1,000, including 49 cases, or 1·19 per 1,000, of mental affections; diseases of organs of special senses 75 cases, or 1·82 per 1,000; diseases of the circulatory system 148 cases, or 3·60 per 1,000; diseases of the respiratory system 32 cases, or ·78 per 1,000; diseases of the digestive system 90 cases, or 2·19 per 1,000, of which 72 cases, or 1·75 per 1,000, were hepatic affections; and injuries 43 cases, or 1·05 per 1,000. Compared with corresponding ratios in the preceding year the variations are only fractional, the most marked being an increase of ·78 per 1,000 in that for constitutional syphilis, one of ·57 in that for tubercular diseases, and one of ·51 in that for malarial fevers, while the most notable decrease was ·65 in the ratio of invaliding on account of diseases of the nervous system.

The number of men finally discharged as medically unfit for further service was 706, equal to a ratio of 17·16 per 1,000, which is higher than the corresponding ratio in the preceding year by 4·47, and above the decennial average by 3·68. The principal disabilities necessitating invaliding were dysentery 11 cases, or ·27 per 1,000; secondary syphilis 36 cases, or ·88 per 1,000; debility 145 cases, or 3·52 per 1,000; rheumatism 16 cases, or ·39 per 1,000; tubercular diseases 41 cases, or 1·00 per 1,000; diseases of the nervous system 91 cases, or 2·21 per 1,000, of which 57 cases, or 1·39 per 1,000, were mental affections; diseases of organs of special senses 76 cases, or 1·85 per 1,000; diseases of the circulatory system 114 cases, or 2·77 per 1,000; diseases of the digestive system 39 cases, or ·95 per 1,000; diseases of the organs of locomotion 29 cases, or ·70 per 1,000, and injuries 35 cases, or ·85 per 1,000.

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Compared with corresponding ratios in the preceding year an increase is observed in most of the invaliding rates in the year under report, but with the exception of debility, which shows an increase of 2·38, only to a fractional extent; among these may be noticed ·76 in diseases of organs of special senses, and ·49 in diseases of the circulatory system. In a few instances a decline is observed but in none to any extent.

Officers.—The average strength was 1,146, the number of attacks of illness 1,123, the number of deaths 27, and there were 77 officers invalided to England. The ratio of sickness was, therefore, 979·9 per 1,000, that of mortality 23·56, and that of invaliding 67·19 per 1,000. Compared with corresponding ratios in the previous year the rate of prevalence of sickness has increased by 198·2, and that of invaliding by 10·93; but the mortality rate has declined by 3·72. *Eruptive fevers* caused 12 cases of sickness, comprising 4, one fatal, of small-pox, 5 of measles, and 3 of scarlet fever. The small-pox cases occurred at Dinapore, Agra, Sialkot, and Jhansi, one at each, that in the first named proving fatal; the measles cases were 2 each at Sitapur and Kasauli, and 1 at Ranikhet, and the scarlet fever cases were 2 at Murree and 1 at Rawal Pindi. 65 officers were attacked with enteric fever, and 6 died. The ratio of attacks to strength was, therefore, 56·7, and of mortality 5·24 per 1,000, as compared with 58·8 and 14·49 respectively in the previous year, and with 24·2 and 6·30, the corresponding ratios for the non-commissioned officers and men in the year under report. The per-centage of mortality to attack was 9·23 as compared with 24·6 in the previous year, and with 26 among non-commissioned officers and men. The cases occurred at 32 stations:—At Meerut, Murree, and Meean Meer there were 5 cases each, with a death at the last-named; Bareilly 4 cases, one fatal, Chakrata 4 cases, and Rawal Pindi 4, Quetta 3 cases, one fatal; Lucknow, Agra, and Jhansi 3 cases each; 2 cases and one death at Allahabad and also at Cawnpore; 2 cases at Umballa, and 2 at Dum Dum; 1 fatal case at Nowgong, and single cases, recoveries, at Dinapore, Benares, Sitapur, Ranikhet, Chaubattia, Naini Tal, Jubbulpore, Muttra, Delhi, Jutogh, Kasauli, Fort Lahore, Ferozepore, Bhagsu, Sialkot, Gharial, and Nowshera. Other continued fevers were in the ratio of 97·7 per 1,000, which is higher than the corresponding rate in the preceding year by 4·8. There were 8 cases of cholera, six fatal, as compared with 2 cases, both fatal, in the previous year. Of the cases, 4, all fatal, occurred at Ranikhet, 1 fatal at Fort William, also 1 in Lucknow; the remaining two cases were at Chaubattia and at Saugor, both of these recovered. Dysentery caused 33 cases of illness, being in the ratio of 28·8 per 1,000, an increase of 3·2 on the ratio in the preceding year; one death occurred from this disease. Influenza was the cause of 85 attacks of illness, the ratio of prevalence was 74·2 per 1,000. Malarial fevers gave a ratio of sickness of 184·1 per 1,000, which is in excess of the corresponding rate in the previous year by 35·8. The cases comprised 181 of ague, 20 of remittent fever, and 10 of malarial cachexia. No death occurred from malarial disease. Venereal affections, 27 cases, gave a ratio of 23·6 per 1,000, a decline of 4·6 from the last year's rate. Debility, with a ratio of 19·2 per 1,000, also shows a decrease. The ratio of prevalence of rheumatic affections was also 19·2 per 1,000, but is higher than in the preceding year by 4·7. Among local diseases, nervous affections caused 19 cases of sickness, equal to a ratio of 16·6 per 1,000, more than double the corresponding rate in the previous year; neuralgia was the chief cause of sickness, but there were two cases of apoplexy and a fatal case of meningitis. Diseases of the respiratory system caused 38 attacks of illness, 25 of which were cases of bronchitis and 8 pneumonia. The ratio of prevalence, 33·2 per 1,000, shows an increase of 9·3. Diseases of the digestive system were at the rate of 140·5 per 1,000 as compared with 116·8 in the previous year. The principal causes of sickness were diarrhœa 57 cases, and hepatic diseases 50, four of which were fatal. There was also a death from peritonitis. Cutaneous diseases, principally boils and ulcers, gave a ratio of sickness of 41·9, an increase of 8·7 on the last year's rate. Injuries numbered 167, being in the ratio of 145·8 per 1,000, which is above the corresponding rate in the previous year by 23·0. Among the cases were 23 of fracture, two of which were fatal, 12 of concussion of the brain, 2 of concussion of spinal cord, 1 fatal of compression of brain, 1 fatal self-inflicted gun-shot wound, and one death from accidental drowning. In addition to the deaths already mentioned there was one death

recorded from anæmia and one from abscess of the connective tissue. The causes of invaliding were enteric fever 20 cases, malarial fever 9, debility 6, dysentery 4, nervous affections 4, injuries 6, synovitis 3, respiratory diseases 3, diseases of the digestive system 12, including seven cases of hepatic disease, rheumatic affections 3, tubercular disease of the lung 2, and erysipelas, ophthalmic diseases, aneurism, splenitis, and disease of glands one case respectively. *Bengal.*

Women.—The average strength was 1,688, the number of admissions into hospital 1,278, and there were 24 deaths. The admission ratio, therefore, was 757·1, and the death rate 14·22 per 1,000, the former being higher by 83·8, and the latter lower by 5·13 than the corresponding rate in the previous year. Eruptive fevers caused 20 admissions, comprising 4 of small-pox, 1 of chicken-pox, and 15 of measles. Of the cases of small-pox three occurred at Meerut and one at Cawnpore; all of them recovered. Enteric fever caused 18 admissions and 2 deaths as compared with 12 admissions and no death in the previous year. The admission ratio, 10·7 per 1,000, shows an increase of 3·7, 10 of the cases, one of which was fatal, occurred at Meerut, 2 cases and one death at Sialkot, 2 cases at Quetta, and a case each at Chakrata, Subathu, Rawal Pindi, and Murree. Simple continued fever caused 50 admissions, being in the ratio of 29·6 per 1,000, which is higher than the corresponding rate in the previous year by 2·6. There were 5 admissions and 2 deaths from cholera as compared with 3 cases, all fatal, in 1889. Of the cases, two with one death, occurred at Ranikhet, one fatal at Chunar, and one at Dinapore and Lucknow respectively. Dysentery gave 31 attacks of illness and 2 deaths, the ratio of admission being 18·4 and that of mortality 1·18. Influenza caused 26 admissions, being at the rate of 15·4 per 1,000. Malarial fevers were at the rate of 157·0 per 1,000, as compared with 117·3 in the previous year. The admissions, 265, comprised 17 of remittent fever, 1 of malarial cachexia, and the remainder ague. There was one death from remittent fever. Under the head of septic diseases two admissions, one fatal, for septicæmia are returned, and one for erysipelas. The cases returned as debility numbered 382, equal to a ratio of 226·3 per 1,000, which is in excess of the last year's rate by 33·3. Rheumatism caused 18 admissions, which include 3 cases of rheumatic fever. Tubercular disease of the lungs gave 5 admissions against 3 fatal cases in the previous year. Under the head of anæmia 30 cases are recorded, being in the ratio of 17·7 per 1,000. Among local diseases affections of the nervous system caused 25 admissions and 4 deaths against 23 and 2 respectively in the previous year. The cases included 10 of neuralgia and 6 of hysteria. The deaths were 2 from apoplexy, one from spinal meningitis, and one from softening of the brain. Ophthalmic diseases caused 22 admissions, of which 18 were for conjunctivitis. Diseases of the circulatory system accounted for 11 cases, 3 fatal; in the previous year there were also 11 admissions, but no death. The cases were palpitation 5, valve disease of the heart 2, and angina pectoris, endocarditis, fatty degeneration, and embolism 1 respectively; the three last named proved fatal. Diseases of the respiratory system caused 57 admissions and 2 deaths against 19 cases and 2 deaths in the preceding year. The cases included 38 of bronchitis, 9 of pneumonia, 4 of pleurisy, 4 of pneumonic phthisis, two fatal, and 2 of asthma. Diseases of the digestive system caused 126 admissions and 5 deaths, being in the ratios of 74·6 and 2·96 per 1,000, which are lower than the corresponding rates in the previous year by 5·2 and ·56 respectively. The principal causes of admission were dyspepsia 20 cases, diarrhœa 53, and hepatic diseases 14, including one case of cirrhosis and one of abscess of the liver, both fatal. There were also one death from hæmatemesis, one from diarrhœa, and one from peritonitis. Diseases of the generative system gave 125 admissions and 2 deaths. The admission rate, therefore, was 74·1, and the death rate 1·18 per 1,000, which are lower than similar ratios in 1889 by 22·7 and ·58 respectively. The causes of admission were numerous, the principal one, numerically, being abortion, 32 cases. The deaths were one from metritis and one from uterine hæmorrhage. The cases in the remaining orders of diseases were not numerous, and call for no remark.

Children.—The average strength was 3,224, the cases of illness 1,552, and the number of deaths was 169. The admission ratio, therefore, was 481·4, and the death rate 52·42 per 1,000, which are in excess of the corresponding

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ratios in the previous year by 122·4 and 8·80 respectively. Eruptive fevers caused 305 admissions or 94·6 per 1,000; in the preceding year there were only 18 admissions. This great increase is due to an epidemic of measles, which caused 293 admissions, or 90·8 per 1,000. 27 stations were affected, notably Kasauli, where the disease attacked 89 children, 3 of whom died, Sialkot 39 cases, Agra 26 and 2 deaths, and Meerut 26 cases. Among the other stations were Chakrata 17 cases, Ferozepore 15, Ranikhet 12, Dagshai 9, Lucknow, 7, one fatal, Rawal Pindi 5, one fatal, Murree 4, one fatal, Fort Allahabad 2, one fatal, and a fatal case at Muttra. There were 7 cases of small-pox as compared with 2 in the previous year. Five of these occurred at Allahabad, all in the same family, the disease was, it is thought, contracted while travelling; the two remaining cases were one at Dinapore and one at Muttra. Enteric fever caused 28 admissions and 3 deaths, as compared with 16 admissions and 4 deaths in the preceding year. Of the cases 7 occurred at Dum Dum, 6 with two deaths at Meerut, 3 at Murree, 2, one fatal, at Rawal Pindi, 2 each at Agra and Sialkot, and one at Benares, Fatehgarh, Jhansi, Roorkee, Landour, and Ferozepore respectively. Simple continued fever was the cause of 115 admissions and 6 deaths, against 80 admissions and 1 death in 1889. There were 3 cases of cholera, two of which were fatal, as compared with 3 admissions and 4 deaths in the preceding year. Two of the cases and one death occurred at Lucknow, and the other fatal case was at Ranikhet. Influenza was the cause of 22 admissions and 1 death, and whooping cough caused 30 admissions and 1 death as compared with 51 cases and 4 deaths in 1889. Two fatal cases of diphtheria occurred, one at Jubbulpore, and the other at Kasauli. Dysentery caused 37 admissions and 7 deaths; in 1889 there were 33 cases and 1 death. Malarial fevers accounted for 270 admissions and 8 deaths, being in the ratios of 83·7 and 2·48 per 1,000, which are higher than the corresponding ratios in the previous year by 20·4 and ·06 respectively. The cases included 231 of ague, two fatal, 34 of remittent fever, six fatal, and 5 of malarial cachexia. There were 3 cases of erysipelas and 3 of congenital syphilis, from which also a death is recorded. Parasitic diseases caused only 3 admissions against 11 in the previous year. 116 cases and 16 deaths are returned under developmental diseases; of the deaths 9 are recorded as due to debility, and 7 to immaturity at birth. The remaining admissions for general diseases comprised 2 for rheumatism, 3 for malignant disease with one death, 15 for tubercular diseases with 6 deaths, 5 for anæmia, and 1 for hæmophilia. Among local diseases affections of the nervous system caused 50 admissions and 33 deaths as compared with 46 and 28 respectively in the previous year. The principal cause of admission was infantile convulsions, and all the deaths were due to this cause. Ophthalmic affections caused 83 admissions, less frequent than in 1889, when the number was 137; all but four of the cases were conjunctivitis. Among 7 cases of diseases of the ear there was one, fatal, of necrosis of the internal ear; there was also one death from nasal disease, a case of epistaxis. As in the previous year there was no instance of disease of the circulatory system. Affections of the respiratory system, however, caused 126 admissions and 12 deaths, the ratios were 29·1 and 3·72 per 1,000, the former higher by ·6 and the latter lower by 2·04 than those in the previous year. The admissions included 106 cases of bronchitis with 6 deaths, 10 cases, 3 fatal, of croup, 7 of pneumonia with 2 deaths, 2 of laryngitis, one of which ended fatally, and 1 case of pleurisy. Diseases of the digestive system caused 232 admissions and 55 deaths, being in the ratios of 72·0 and 17·06 per 1,000. Compared with corresponding ratios in the preceding year there is an increase of 1·7 in the former and of 4·94 in the latter. Among the admissions there were 136 cases, with 35 deaths, of diarrhœa, and 56 cases and 11 deaths from teething. There were also 2 deaths from sloughing sore throat, 2 from intussusception, and one death from abscess of the salivary glands, enteritis, hernia, fistula, and jaundice respectively. Among the remaining cases it is only necessary to mention a case of nephritis, a fatal case returned under impetigo, a death from burn, 2 cases of sunstroke, one of which died, and 9 admissions due to fractures.

Sanitary Conditions.—The following points regarding the health of the troops and the sanitary condition of the different districts and stations

are taken from the reports of the Principal Medical Officer and of medical officers in charge of station hospitals.

Presidency District.—At Fort William the general sanitary condition of barracks, &c. is reported to have been satisfactory; the hospital also was in good order; it is stated the water is brought from the municipal supply in carts, but it is very desirable that it should be laid on, and this, it is understood, has been sanctioned. At Dum Dum the barracks were kept in a good sanitary state; the condition of the married quarters and hospital is also favourably reported on. The surface drainage about the men's barracks was carefully attended to and kept in repair, but that about the officers' lines was not in so satisfactory a state. At Barrackpore some changes were effected in the hospital during the year. Accommodation for hospital stores was provided in vacant medical subordinates' quarters, and the ward hitherto occupied as a store allotted to its proper purpose. The hospital was re-roofed during the year, and pipes bringing water into the dispensary and mortuary were laid on, which has been found to be a great convenience. With regard to clothing the medical officer in charge speaks against the practice which has crept in of wearing khaki drill in the cold season for marching, musketry, field days, &c., and thinks that it may render the soldier more liable to climatic disease; the colour is most suitable but serge would be a preferable material. Of Darjeeling it is stated that the station kept up its reputation as a sanitarium for Europeans whose health has suffered in the plains. The great majority of the men sent up recovered rapidly after a few months' residence. The general sanitation of the cantonment was well looked after. Excreta are carried from the latrines to some distance and buried, and to enable this distance to be greater a wire tramway has been sanctioned. Instructions were issued for clearing away certain native huts which had been erected in different parts of cantonments without authority. Gnathong, situated at an elevation of 12,030 feet above sea level, on the eastern frontier of Sikkim, appears, it is said, to be a healthy station, notwithstanding the great rainfall during the summer months and the great cold in winter; but men with any affection of the circulatory or respiratory organs do not appear to do well. The troops live in wooden huts, situated inside a stockade built on the slope of a hill, and arranged in terraces. The sanitary conditions are good, but some of the huts are out of repair. The water supply is from a spring on the hill side, some few hundred yards distant from the fort, and is excellent. On account of the cold it was necessary to recommend extra clothing, and also extra blankets, during the winter months.

Allahabad District.—At Allahabad new water works are in process of construction by the municipality, which will eventually be extended to cantonments. This supply being conveyed in pipes will be beneficial and obviate the risk of defilement to which well water is always more or less exposed, notwithstanding every precaution. The barracks are in a sanitary condition, and the hospital also; the latter is equipped for 110 beds, and should be sufficient for the needs of the garrison, but in consequence of the great increase of venereal disease the accommodation was at times inadequate, necessitating the occupation of a barrack for the use of the sick. At Fort Allahabad the barrack accommodation was satisfactory, but the position of the hospital in close proximity to the infantry barracks and canteen was brought to notice. The artillery kitchen is reported as being small and inconvenient, and unprovided with a suitable cooking range; the floor also was in bad condition and retained impurities. These defects were brought to notice and estimates submitted for remedial measures. At Cawnpore no alteration was effected in the barracks during the year, and their general sanitary condition was good. A scheme has been put forward for the drainage of the city, and also one for providing a free and pure water supply; it was hoped that these projects would be shortly carried into effect. It is reported that a dairy farm for the purpose of supplying pure milk and butter to the troops was about to be started, and that if this scheme can be effectually carried out the beneficial effect on the health of the men would be great. The hospital is not very good, and is dark and gloomy; many of the stones in the flooring were broken, and it was in contemplation to repave the whole of the wards. At Benares the barracks are, it is reported, clean and in good order, and meet requirements satisfactorily. The married quarters are also favourably reported on. Drainage is effected by

Bengal. surface drains of pucca brick, and is good. The drain running along the side of the barracks parallel to the railway, necessary to complete the system, was provided during the year. At Dinapore the permanent barracks occupied by the artillery and by a portion of the infantry are fine, roomy buildings, but the temporary barracks occupied by infantry are not satisfactory, being ill constructed and badly arranged; this condition has been previously brought to notice. The surface drainage is reported to be defective owing to want of fall. Attention was called to the want of tanks for storing water at the cook-houses. At Chunar the barracks were in a satisfactory condition, and there was no overcrowding, the drainage is particularly good owing to the natural advantage of the situation of the barracks. The water supply is from the Ganges, and when drawn contains much suspended matter, but after subsidence and filtration the water is good. The water for the hospital is obtained from a well in the compound and is excellent. At Fatehgarh the general health of the troops was good. The barracks were in satisfactory sanitary condition, and the ventilation and drainage in perfect order. The renovation of the bungalows and the substitution of Allahabad tiles for thatched roofs was continued and was still in progress. In the hospital there are no wards specially provided for infectious cases, but as accommodation is ample arrangements can be made.

Oudh District.—At Lucknow there was a further increase in the amount of sickness during the year, due principally to fevers and venereal diseases, especially of a constitutional character. All the barracks in the cavalry and artillery lines and most of those in the infantry lines are of modern construction and on one plan. Each block consists of a central dining room between two dormitories, and at each end two rooms for non-commissioned officers. In the lines of each infantry battalion there are three double-storied barracks, which are to remain; but there are a few single story barracks of old pattern, which are to be replaced by others on the new system. The sanitary state of the barracks and cantonments was generally very satisfactory; the dry earth system of conservancy was carefully worked, the water supply is very good, the barracks and hospital in good order and in a cleanly condition, the rations good and the means of cooking sufficiently varied. The clothing of the men was as a general rule sufficient and well suited to the climate and its changes, but it is remarked that a cavalry regiment on arrival in the country in September suffered somewhat from want of white clothing. Of the military prison it is reported that the buildings are all in a thorough state of repair. The cells were kept in good order and the ventilation was satisfactory. Thermantidotes are worked during the hot season. At Sitapur the barracks, situated about the centre of cantonments, are of two patterns, single and double storied, built of brick and roofed with tiles; some of the one-storied buildings are not in good repair and leaked a good deal in the rainy season. In the double-storied buildings only the upper floors are used as sleeping rooms, the lower stories being used for the different institutes of the regiment. Ventilation is ample and accommodation was sufficient. With regard to surface drainage it is stated that the old system of absorption wells has been almost abandoned, catch pits being used instead, the contents being removed as required. The water supply is obtained from wells, is of good quality, and is filtered before use. At one of the wells a filter bed is in course of construction. The hospital accommodation is sufficient and in a satisfactory sanitary condition. At Fyzabad the barracks are generally in a very good sanitary state as regards ventilation and accommodation; the married quarters are in excess of requirements, and some of the rooms have been used for single men. The prisoners' room was found to afford insufficient accommodation; it was therefore enlarged. The cells are cooled during the summer months by thermantidotes, but it is said that the plan does not work well. The rations were good and cooking satisfactory. The officer commanding the infantry regiment took much trouble to supply each of his men with fresh vegetables daily, free of charge, and also kept a number of cows to provide milk at a reasonable rate for the use of the soldiers and their families.

Rohilkhand District.—There was very little improvement in the health of the troops at Bareilly during the year; enteric fever, as has already been shown, still very prevalent. There was no change in the barracks, the ventilation and accommodation were ample, and the sanitary conditions generally were

satisfactory. The hospital gave sufficient accommodation for ordinary requirements, but a section hospital under canvas was established in the winter months to meet the requirements of the camp of exercise. At Moradabad one barrack only was in occupation during the year; it is a large double-storied building, and proved in every way suitable for its purpose; the hospital also afforded sufficient accommodation, but it is stated that the building is not well suited for a hospital, and is inconvenient in many ways, being hot in summer and cold in winter. There are also no proper means of isolation of suspicious or serious cases. The surface drainage of the cantonment requires improvement as water lodges after heavy rains. At Shahjehanpur the occupied barracks were in good order and afforded sufficient accommodation and are properly ventilated; there are some other barracks which require repair, but these are at present unoccupied. The hospital is comfortable and well arranged, and suitable for requirements under ordinary circumstances; the hospital for women and children consists of part of the main hospital partitioned off, which, though satisfactory, as regards accommodation, is too close to the men's wards. The general sanitary condition of the cantonment was satisfactory. At Ranikhet the barracks scattered over the highest part of the cantonment are satisfactory as to accommodation and ventilation. Careful attention is being paid to the water supply, and certain wells are set apart as only fit to be used for washing purposes. Every care is taken to prevent mistakes, and precautions are adopted to allow none but the water authorised for drinking and cooking to be conveyed in the mussaks specially set apart for that purpose. The substitution of metal cylinders for the conveyance of drinking water in place of leathern mussaks was recommended. The hospital accommodation was during the season found to be very inadequate, and a large number of sick men consequently treated in tents; considerable increase of accommodation is contemplated. At Chaubuttia the men are quartered in huts which are well situated, but it is said that the rooms are too small for the men to live, eat, and sleep in, and the addition of wide verandahs to each hut would be an improvement. The hospital accommodation in huts was quite insufficient, and it was necessary to treat patients in tents even in the rains. The water supply is said to be unsatisfactory. Certain springs are authorised for drinking purposes, one of them, a fairly good water, does not yield a sufficient supply. There are other springs, and the water fairly pure, but they are liable to accidental contamination. Filter beds are attached to each of these springs, but are not found to be very efficient. At Naini Tal the scouring of a stream fed by the overflow of the lake and flowing against the south-eastern base of the ridge on which the depôt is built, has caused the subsidence of a portion of the ridge, and rendered some of the barracks unsafe for habitation during heavy rains. The barracks themselves are in good order, efficiently ventilated, and there was no over-crowding. The hospital also was satisfactory from a sanitary point of view, but it was necessary to use an adjacent barrack as an auxiliary ward during the summer months. As regards the water supply it is said that it is derived from the lake, that for the depôt passing through a series of filter beds of charcoal and gravel; it is analysed from time to time, and generally found to be of fair quality, except that it contains a large proportion of salts. As, however, contamination of the lake water is very possible, the water must be regarded with suspicion, and it is contemplated by the municipality to tap the spring which flows into the lake at the western end and bring the water round in pipes, which would give a supply free from any source of contamination. *Bengal.*

Nerbudda District.—At Jubbulpore the hospital accommodation was found to be altogether insufficient for the sick of the troops, and it was necessary to treat sick in the inner verandahs during the hot weather, when the heat is too great to use tents, and spare barrack buildings are not available. Apart from the accommodation the sanitary condition of the hospital was satisfactory generally, but the means of bathing are not sufficient, and the erection of a separate bath room was recommended; it is also stated that similar provision is advisable for barracks. The medical officer in charge is of opinion that the clothing of the soldier is not altogether suitable and sufficient for the various seasons and great diurnal range of temperature in the cold weather months. At Saugor, also, the hospital accommodation is said to be too limited for requirements during the unhealthy season, and the buildings are very incon-

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veniently separated from each other by a space of nearly four hundred yards. The majority of the barracks are on higher ground than the surrounding neighbourhood, are constructed of stone, and the ventilation is good. The kitchens were generally in good order, but one of them, which had become somewhat dilapidated, required to be put into a state of repair. The married quarters were very satisfactory. At Pachmarhi the health of the troops compares favourably with that in the preceding year, and it is stated that the station showed itself to be especially suitable for the acclimatization of young soldiers. The barracks were generally in a satisfactory sanitary condition, and also the hospital, but in August and part of September the number of sick exceeded the accommodation, necessitating the utilization of the recreation room as a ward. Great improvements were effected in the hospital during the year; the walls of the wards were raised six feet in height, thus increasing the cubic space, clerestory windows were added, a corrugated sheet iron ceiling with two inches of mud plaster has superseded the old bamboo mat ceiling; a plank ceiling was placed in the verandahs and in the north and south end rooms; the partition wall between the two northern wards was placed further north, making two wards of unequal sizes—one for men, the other for women and children; and the large central room was divided into two, one for a recreation room, the other for a ward. Certain new buildings were also provided, including medical subordinates' quarters, quarters for army hospital native corps, a purveyor's store, and a laundry.

Bundelkhand District.—At Agra the sanitary conditions are generally satisfactory, but certain defects are reported. Two large drains pass through the hospital compound of the infantry lines and nothing has yet been done to remedy this defect, owing to the expense which would be incurred; these drains are now flushed by manual labour. The hospital was generally in good order and the ventilation and accommodation satisfactory; except as regards the women's hospital where ventilation is said to be defective. The water supply is good and sufficient, and is carefully filtered. At Jhansi the general health of the troops was good up to September, but indifferent during the rest of the year, principally on account of the prevalence of malarial fever. The sanitary conditions of the station were generally good, but the hospital did not afford sufficient accommodation for the sick, the excess being treated in a barrack room and also, for a part of the year, in tents; the number of hospital attendants is also reported to have been insufficient to carry out the duties punctually. The medical officer in charge brings to notice the very doubtful quality of the drinks obtained by the soldiers when visiting the city bazars, which, manufactured with impure water, may be the cause of much disease; he suggests the establishment of branch coffee shops in these bazars. At Sipri malarial fevers were prevalent towards the end of the rains, but more especially during the three subsequent months. The sanitary surroundings of the barracks were very satisfactory and no recommendations were necessary. The hospital also was favourably reported on. A portion of one of the verandahs has been enclosed and converted into a lavatory; it is convenient and well adapted for the purpose; galvanised tubs were also provided. At Nowgong the barracks, hospital and their vicinity, also the latrines and stables were kept in good sanitary condition throughout the year. The cells, which were formerly built to accommodate three prisoners and ran through the entire length of the building, giving good ventilation and allowing the tatties to work well in the hot weather, were since altered by dividing them into two, longitudinally, by a partition wall; this the medical officer in charge states has rendered them unsatisfactory. Each cell has now one door, but no window, and the ventilation is consequently defective, and in the rear cells there are no tatties. In the hot weather to confine prisoners in these cells, the medical officer thinks, would be dangerous, and he recommends that the cells be restored to their original condition. The five absorption wells for carrying off waste water from the wash-houses are reported as not acting well, and it is proposed to deepen them. Additional subsidiary buildings for the hospital are needed, but the matter is in abeyance pending a decision as to the number of troops which are to form the garrison, also whether the present hospital is to be permanent, or the station hospital already commenced is to be completed.

Meerut District.—At Meerut all the barracks are good pukka masonry buildings, and the thatched roofs are rapidly being replaced by tiles with ridge

ventilation. The means of warming were not found to be very efficient in the cold season. Drainage in good order and conservancy attended to. The hospital is in good order. Two huts of a temporary nature made of bamboo lattice-work and matting erected within the compound were used for small-pox patients, but were found to be very hot; sun-dried brick buildings with thatched roofs have since been erected. At Muttra the medical officer in charge complains of the older barracks, four blocks, on account of defective construction and bad position as regards direction of wind in hot weather, and their proximity to the railway station; this condition was brought to notice. The surface drainage was found to be defective, but was remedied on representation. The hospital also is reported to be old and defective in construction and does not provide sufficient accommodation. The buildings required re-roofing, which was about to be carried out. At Delhi the barracks are in a satisfactory sanitary condition, ventilation good and accommodation sufficient. At present the water supply is from wells, but few of these are entirely satisfactory. Water works for the supply of the city and fort are now in progress and when completed a marked improvement in the purity of the water is expected; the water is to be obtained from wells near the river Jumna and to be pumped up to a reservoir on the ridge, where it will be filtered and thence distributed by pipes. At Roorkee the barracks are built of brick and roofed with thatch or tiled. Their sites are well drained and free from insanitary surroundings. Hospital also satisfactory. Water supply excellent. At Chakrata the climate was found to be very good, and the majority of the troops benefited greatly by their residence in the station. The water supply is abundant and of excellent quality for Chakrata itself, but the supply at Kailana was not above suspicion being liable to contamination by surface drainage; this defect was remedied. In Chakrata the supply is from springs about four miles distant and is conveyed by iron pipes to reservoirs in the vicinity of the barracks. At Landour the climate is variable; in the year under report there was a very warm and early summer which apparently did not brace up the convalescents on their arrival in April as is usually the case; it was, however, succeeded by an early and cold winter. The general sanitary condition of the barracks and cantonment was satisfactory. Some little care in the distribution of water was necessary until the advent of the rains. *Bengal.*

Sirhind District.—At Umballa the health of the troops was indifferent as compared with that of the previous year. This was due chiefly to the great prevalence of malarial disease which resulted from the heavy rainfall during the wet season and the excessive growth of rank vegetation. The sanitary conditions of barracks, &c. were satisfactory. Certain structural alterations were effected at the station hospital, and while these were in progress some of the patients were placed in tents to prevent over-crowding. Of Subathu it is stated that the station is fairly healthy in the dry season, very healthy in winter, but unhealthy during the rains. The barracks and hospital are of modern construction and well suited to the climate. Certain recommendations for alteration in the barracks were put forward, and re-roofing of the bungalows with sheet iron was in progress. With regard to the water supply it is said that traces of impurity had been detected at the commencement of the rains, and the matter was taken into consideration. At Dagshai there are two important sanitary questions affecting the station, viz., the water supply and the system of conservancy. The former is obtained from springs and is naturally pure in quality, but is liable to defect in traversing the hill, and especially to coarse contamination of earthy deposit; the matter was brought to notice and was, it is said, receiving attention. The conservancy system is local reception of excreta, dry earth application, and frequent hand removal to the hill slope below the barracks. This has been going on for years, and the surface for deposit is limited. It is a decided defect, and has been brought to notice with a suggestion that the whole sewage of the hill should be taken away in proper iron carts and removed well beyond the cantonment, and all possible pollution of the water supply. At Jutogh the general sanitary conditions were satisfactory, but the ventilation of the hospital, it is said, is not so good as it might be. However, the hospital is being re-roofed, and care will be taken to ensure proper ridge ventilation when the work is in progress. A new ward was constructed and opened during the year. At Solon the sanitary condition of the barracks and of the cantonment generally was satisfactory, but the accommodation in hospital was insufficient, and the erection

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of a new hospital has been recommended. At Kasauli the sanitary condition of the barracks and their surroundings were very satisfactory.

Lahore District.—The sanitary condition of the barracks at Meean Meer was generally good. The drainage is all surface by means mostly of brick drains; it is necessarily somewhat imperfect owing to the absolute flatness of the ground and the impossibility of getting a good fall. The hospitals are satisfactory, except that the arrangements for warming in the cold weather months are not sufficient; the accommodation also, in times when sickness has been more than usually prevalent, was found to be inadequate. At Fort Lahore there was some prevalence of malarial fever, but the sanitary condition of the quarters, hospital, &c. were satisfactory. At Ferozepore the barrack buildings are satisfactory and well ventilated. The water supply is of good quality as a rule, but rather hard. The great drawback to the station is the difficulty to drain it properly on account of the level character of the ground, but everything that can be done to improve it is done. At Jullundur the sanitary condition of the barracks was generally good; but then there was some little difficulty regarding the surface drainage near the hospital, but this was remedied. At Mooltan the barracks give sufficient accommodation and are well ventilated, as also the hospital; the latter, it is said, is rather cold in winter, the rooms being very large and the fireplaces inadequate to heat them. Water supply is plentiful and of good quality as long as the wells are kept working, but it soon becomes brackish if the wells are disused for any time from the saline matter taken up from the soil. At Amritsar the level nature of the ground causes considerable difficulty with regard to surface drainage. The barracks are satisfactory as regards ventilation and accommodation. At Fort Govindghur complaints were frequently made of offensive effluvia from the ditch, and of its being a cause of unhealthiness to those stationed in the fort. Representations were made on the subject, but the remedy appears difficult. At Bhagsu the sanitary conditions are generally good. The water supply is said to be on the whole satisfactory, but is liable to pollution; representations were made and an improved scheme is consequently under consideration. At Dalhousie barracks were in good order; also the hospital, but it was necessary to supplement the accommodation in the latter by tents. The only fault found was that the ablution accommodation which is very good, is rather far from main building.

Rawal Pindi District.—At Rawal Pindi the barracks are in good order. The water supply is said to be not altogether satisfactory, it is entirely from wells, and in many of them in dry weather there is so little water that they are practically of no use; this is particularly the case of the well at the main hospital. The huts at West Ridge were completed for the men and their families, but the hospital was not even begun. At Attock the sanitary condition both of barracks and hospital was satisfactory. The general health of the troops does not appear to have been as satisfactory as in the previous year. Malarial fevers were prevalent. At Sialkot the greatest attention was paid to the essentials of sanitation, pure water, good drainage, and untainted air. The barracks were generally in good order, but the hospital accommodation is said to have been insufficient, and the use of tents was necessary. It was found requisite to alter the construction of the fireplaces in order to secure better warming. At Campbellpore malarial diseases were rife, but it is said that the men who suffered from them evidently contracted the predisposition at other stations. The sanitary state of the cantonment is good, but it is stated that it is necessary to keep in mind the advisability of an enlargement of the station hospital which, while giving space for more sick, would also provide a dining room. At Murree the health of the troops was very good, and the sanitary condition of the depôt barracks, married quarters, and Cliffden, was very satisfactory. A system of puckha drainage throughout the hospital compound is much needed, and an estimate for this service was submitted. At Khyra Gully the sanitary arrangements were satisfactory and the health of the troops good generally, though in July and August, owing to the constant wet weather, not so good as at other times. From Barra Gully also the report was satisfactory. At Kalabagh the health of the men sent up from the plains considerably improved during their stay. Sanitation was carefully attended to. At the commencement of the season owing to the long spell of fine weather there was some anxiety about the water supply, but the rains broke before the supply entirely gave out. At Kuldunnah some new

blocks of barracks were completed during the season, and prior to the departure of the troops only about a hundred men remained under canvas. The barracks are built of stone with wooden roofs covered with corrugated iron; the accommodation is satisfactory. At Gharial the greater portion of the troops were quartered in stone huts and the remainder in tents. The sanitary arrangements were satisfactory, and the health of the men improved greatly during their stay. At Camps Thobba and Topa the sanitary conditions under which the troops lived were as satisfactory as possible, and the general health was good. The report from Ghora Dhaka is also favourable. *Bengal.*

Peshawar District.—The general health of the troops at Peshawar during the year was good, but in the early part and last two months of the year the usual malarial fever prevailed, though not to a greater extent than usual. Small-pox was prevalent in the city and surrounding villages, but only three cases occurred amongst the troops. The sanitary condition of the barracks and quarters was carefully attended to. The hospital also was in good order, the accommodation and ventilation sufficient, and it was well warmed in the winter months by fires; thick purdahs were also hung over the doors to prevent draughts. At Nowshera the barracks afford ample accommodation for all the troops, but they are not in a good state of repair and require re-roofing, and the old flagstones replaced with new ones. It is said that these improvements had been commenced and are to be gradually carried out. The arrangements for warming do not appear to have been quite sufficient. The hospital is similar in construction to the barracks, but the ventilation shafts are carried through and above the roof to a height of four feet. The concrete round the hospital for about six feet from the walls is said to be a good deal broken and to require renewal, and the hospital compound should be entirely closed by a wall of which at present only half exists; these requirements were brought to notice. At Cherat several new barracks were occupied for the first time during the year; it is stated that they are built on an improved plan, they contain fifty men each, and are partially divided by arches. The floors of many of the barrack rooms are made of chunam, which is easily broken, forms dust in the room, and is difficult to keep clean; stone floors have been recommended in place of them. The surface drainage in the vicinity of many of the barracks is defective, and the water lodges round the foundations, after heavy rain, for days. The nature of the ground renders efficient drainage difficult, but it is thought something can be done to remedy this defect. The lavatories are only temporary buildings and are objectionable, but it is believed that it is in contemplation to provide permanent ones. The hospital accommodation is altogether inadequate, and it was necessary to treat a large number of sick in tents, but the question of providing suitable accommodation is said to be under consideration.

Quetta District.—At Quetta the sickness among the troops was less than in the previous year, but the medical officer in charge remarks that the fact that a considerable portion of the garrison was absent on field service for some time will account for this in some measure. In the right infantry lines the accommodation consists of four whole company barracks, eight half company barracks, and a band barrack, and is satisfactory as regards cubic space and ventilation. During the year the following additions were made: a row of followers' huts at the north-east angle of barracks, and to the east, field officers' quarters, married quarters, and other quarters for junior officers. The new mess house was also completed. Three water tanks were erected in connection with the new water supply, and an orderly room and some workshops were also completed. In the left infantry lines the accommodation is very similar and is satisfactory, the only additional buildings which were constructed in the year under report were the voluntary workshops, and the orderly room and offices. The artillery lines consist of hut barracks affording accommodation for a mountain battery and two garrison batteries. All the rooms are lofty and well ventilated. During the year the sergeants' mess and school were completed and taken into use, and some workshops and harness rooms were also erected. At the hospital, accommodation for female patients was being constructed. Extra quarters are required for medical warrant officers, also quarters for hospital attendants and a store house. Action was being taken to provide the above.

II.—MADRAS.

Madras.

The average strength of warrant officers, non-commissioned officers, and men serving in the Madras Command was 13,551, being lower than the number in the preceding year by 9.

In the subjoined table will be found the most important of the health statistics of this force during the year :—

1890. Average Strength.	Admissions.	Deaths			Invalids		Average Constantly Sick.	Ratios per 1,000 of Strength.				
		In the Command.	Of Invalids.	Total.	Sent Home.	Finally discharged.		Admissions.	Deaths.	Invalids sent Home.	Invalids finally discharged.	Constantly Sick.
13,551	19,096	160	17	177	311	204	1202·20	1409·2	13·07	22·95	15·05	88·71

Compared with corresponding ratios in the preceding year, a decline of 87·4 per 1,000 has occurred in the admission ratio, one of 7·50 in the death rate, and one of 11·50 in the constantly sick rate, while compared with average similar rates for the previous ten years an increase of 167·9 per 1,000 is observed in the ratio of admission, and one of 18·80 in the ratio of constant inefficiency through sickness, but in the ratio of mortality there is a fractional decrease. It must be remembered with regard to the decennial comparison that the year under report and the preceding year include the sickness and mortality among the troops in Upper Burma, which previous years did not. The average sick time to each soldier was 32·38 days, which is shorter than the corresponding period in the preceding year by about half a day, but longer than the similar average period for the previous ten years by 6·87 days. The average duration of each case of sickness was 22·98 days, which is very nearly one day longer than in the previous year, and longer than the decennial average by 2·43 days.

The loss to the Command by death and invaliding to England was 471 men, as compared with 678 in the previous year, and the total loss to the service by death and final discharge as medically unfit for further service was 381 men, equal to a ratio of 28·12 per 1,000, which is below the corresponding rate in the previous year by 7·06.

In Abstract XXIV. will be found a table, taken from the report of the Principal Medical Officer, Surgeon-General Sir James Hanbury, K.C.B., which gives the most important of the statistics of sickness and mortality of the different districts and stations in the Command. With regard to the districts, it is observed that the highest admission rate was 1778·6 per 1,000 in Upper Burma or the Myingyan and Mandalay district, the next 1587·1 in the Madras district, followed by 1481·7 in Lower Burma or the Rangoon district, 1324·8 in the Southern district, 1253·3 in the Belgaum and Bangalore district, and 1129·6 in the Secunderabad district. In the previous year the order in which the admission rates of the different districts were arranged was the same, except that the position of the last two were reversed. Compared with corresponding rates in the previous year there was a decline of 365·9 in the Myingyan and Mandalay district, and one of 157·5 in the Secunderabad district; in all the remaining districts an increase is observed, being as much as 153·2 in the Rangoon district, but only to a slight extent in the other three districts. The highest mortality rate was 20·52 per 1,000 in the Rangoon district, the next 18·28 in the Madras district, then 16·23 in the Myingyan and Mandalay district, followed by 8·24 in the Secunderabad district, 5·54 in the Belgaum and Bangalore district, and 5·33 in the Southern district. In the previous year the highest mortality ratios were in the Secunderabad and Myingyan and Mandalay districts, and the lowest, as in the year under report,

in the Southern and Belgaum and Bangalore districts. Compared with corresponding ratios in the preceding year, the death rates have increased in the Rangoon, Madras, and Southern districts by 8·68, 5·81, and ·38, and decreased in the Secunderabad, Myingyan and Mandalay, and Belgaum and Bangalore districts by 22·28, 13·96, and 2·43 respectively. With regard to individual stations, with an average strength of not less than 100 men, it is found that, as in the previous year, the highest admission rate in any station was in Bhamo, 2292·4 per ,,000, which, however, is below the corresponding rate in the previous year by 719·9, and below the average rate of the preceding two years by 945·1; the next ratio was 2032·1 at Mandalay, a decline of 54·5 from the previous year and below the biennial average by 34·5, followed by 1968·1 in Bellary, a decrease of 66·5 from the rate in 1889, but in excess of the decennial average rate by 497·0; the lowest admission ratio was 987·6 per 1,000 in Belgaum, a decline of 150·0 from the rate in the preceding year and of 81·3 from the average rate of the previous three years, the ratio next above was 1090·9 at Port Blair, which is below the last year's rate by as much as 582·7, but above the ten years' average rate by 80·0, and next 1129·6 at Secunderabad, a decrease of 157·5 from the rate in 1889, but above the decennial average by 29·6. The highest mortality rate in any station was 34·05 per 1,000 at Toungoo, which is higher than the previous year's rate by 22·17 and than the average rate of ten years by 24·32, the next ratio was 29·70 at Calicut, as compared with *nil* in 1889, and above the average rate by 24·81, followed by 25·27 at Bhamo, which is lower than in the previous year, and below the average, by 19·17 and 21·69 respectively. At Malapuram, as in the preceding year, there was no mortality; at Wellington, excluding the depôt, there was a ratio of 1·72 per 1,000, below the last year's rate by 4·79 and below the average rate of 3 years; at Belgaum also there was a low ratio, 3·82, which, however, is higher than that in the previous year by 1·19, but below the average rate of five years by 1·67. The average number constantly sick was highest at Mandalay, the ratio being 136·93 per 1,000, the next rate was 123·98 at Bellary; these are lower than the corresponding ratios in the previous year by 5·11 and 3·77, but the ratio third in order, 126·03 at Rangoon, shows an increase of 32·91; the lowest ratio of constantly sick was 34·96 at Port Blair, the next above being 59·70 at Shwebo, and 62·94 at Bernardmyo; of these ratios the first two show a decline of 13·65 and 10·23 respectively, and the last one an increase of 1·96 as compared with the previous year. In 1889 also Mandalay and Bellary gave the highest ratios, and Port Blair the lowest ratio of constant inefficiency through sickness. Of the convalescent depôts, it is observed that at Poonamallee there is an increase in the admission and constantly sick rates of 598·2 and 103·60 respectively as compared with the preceding year, but there is a decrease of 4·54 in the death rate. At Wellington an increase is observed in all these rates, being 384·5 in that of admission, 13·86 in that of mortality, and 9·35 in that of constantly sick. *Madras.*

The more important of the statistics of sickness and mortality of the different arms of the service, and of the several regiments, batteries, and corps which served in the Command during the year are given in Abstract XLII. in a table taken from the report of the Principal Medical Officer.

The admission ratio in the cavalry was equal to 1075·9 per 1,000, the mortality rate to 5·23, and the constantly sick rate to 78·15; these are lower than the corresponding ratios in the previous year by 81·5, 9·50, and 9·43 respectively. The average sick time to each soldier, 28·52 days, was shorter than that in the previous year by 3·45 days, and the average duration of each case of sickness 26·51 days, shorter by 1·11 days. Of the two cavalry regiments the 21st Hussars stationed at Bangalore gave the highest ratio of admission, 1104·2 per 1,000, but the 7th Hussars, stationed at Secunderabad, gave the highest ratios of mortality and constantly sick, 5·52 and 80·46 respectively, but in no case was the difference very great. In the artillery the admission rate, 1461·2, and the constantly sick rate, 93·19 per 1,000, are in excess of the corresponding ratios in the previous year by 77·6 and 7·18 respectively, but there is a decline of 2·12 in the death rate, 14·43. The average sick time to each soldier, 34·01 days, and the average duration of each case of sickness, 23·28 days, are longer than the corresponding periods in the previous year by 2·62 days and ·59 of a day respectively. Excluding batteries whose average annual strength was under 100 men, the highest admission ratio was 2912·6 per 1,000 in No. 1 Battery, Eastern Division, at Mandalay, the next 1947·4

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in No. 9 Battery, Southern Division, at Rangoon, and 1636·4 in No. 21 Field Battery, at Bellary; the lowest ratio was 909·1 in No. 38 Field Battery, at Secunderabad, the next above being 982·0 in R Battery, Royal Horse Artillery, at Bangalore. Mortality was highest in No. 9 Battery, Southern Division, 35·09 per 1,000, next in No. 61 Field Battery, at Bangalore, 19·11, and in No. 13 Battery, Eastern Division, at Thayetmyo, 17·39; in Nos. 20 and 21 Field Batteries and No. 1 Battery, Eastern Division there was no mortality. The highest ratio of constantly sick was 170·39 per 1,000 in No. 1 Battery, Eastern Division, the next 154·56 in No. 9 Battery, Southern Division, and 108·41 in No. 61 Field Battery; the lowest ratio was 53·89 in R Battery, Royal Horse Artillery, the next above being 69·30 in No. 38 Field Battery, and 70·25 in No. 19 Field Battery at Bangalore. In the Royal Engineers the admission and constantly sick rates, 294·1 and 15·29 per 1,000, were rather lower than in the previous year, while the mortality in both years was *nil*. The average sick time to each soldier 5·58 days, was almost the same as in the previous year, but the average duration of each case of sickness, 18·98 days, was longer by 2·14 days. In the infantry, the admission ratio was 1437·5, the death rate 11·09, and the constantly sick rate 87·63 per 1,000, which have declined from the corresponding ratios in the preceding year by 166·2, 10·52, and 5·11 respectively. The average sick time to each soldier was 31·98 days, shorter than in the previous year by 1·87 days, while the average duration of each case of sickness, 22·25 days, was longer by 1·14 days. Excluding the 1st Battalion Devonshire Regiment, whose average annual strength was very small, having been only a few weeks in the country, the highest annual admission rate in any infantry regiment was 1996·6 per 1,000, in the 1st Battalion the Border Regiment stationed at Mandalay, the next was 1980·2 in the 1st Battalion Hampshire Regiment, also at Mandalay, and 1908·6 in the 1st Battalion Duke of Cornwall's Light Infantry, headquarters at Bellary, and a wing at Madras; the lowest admission rate was 892·7 in the 2nd Battalion Somersetshire Light Infantry, at Belgaum, the next above being 1042·0 in the 2nd Battalion Bedfordshire Regiment, at Secunderabad, and 1202·3 in the 2nd Battalion King's Own Yorkshire Light Infantry, at Bangalore. Mortality was highest, 24·52 per 1,000, in the 2nd Battalion Oxfordshire Light Infantry, headquarters at Toungoo, and detachments at Meiktila and Port Blair, and 22·18 in the 1st Battalion the Border Regiment, and 16·33 in the 1st Battalion Hampshire Regiment; the lowest rate was 3·04 in the 2nd Battalion Somersetshire Light Infantry, the next above 5·22 in the 1st Battalion Norfolk Regiment, at Wellington, with a detachment at Cannanore, and 5·82 in the 2nd Battalion King's Own Yorkshire Light Infantry. The highest ratio of constantly sick was 134·13 per 1,000 in the 2nd Battalion King's Own Scottish Borderers, stationed at Rangoon, then 125·12 in the 1st Battalion Duke of Cornwall's Light Infantry, and 112·88 in the 1st Battalion the Border Regiment; the lowest ratio, 58·52 per 1,000 was in the 2nd Battalion Somersetshire Light Infantry, the next above being 72·34 in the 2nd Battalion Bedfordshire Regiment, and 74·16 in the 2nd Battalion Oxfordshire Light Infantry.

The following table has been prepared to show as far as possible the influence of age on sickness and mortality among the troops during the year:—

Ages.	Average Strength.	Admissions.	Deaths in Command.	Invaliding.	Ratios per 1,000 of Strength.		
					Admissions.	Deaths.	Invaliding.
Under 20 years - -	459	383	1	5	834·4	2·18	10·89
From 20 to 24 years -	6,463	10,862	76	153	1680·6	11·76	23·67
„ 25 „ 29 „ -	4,786	6,740	61	124	1408·3	12·74	25·91
„ 30 „ 34 „ -	1,125	814	15	23	723·5	13·33	20·44
„ 35 „ 39 „ -	486	198	4	6	407·4	8·23	12·35
Over 40 years - -	108	48	3	—	444·4	27·77	—
Not stated - -	124	51	—	—	—	—	—
Total - -	13,551	19,096	160	311	1409·2	11·81	22·95

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It will be seen that the highest admission ratio was among men between 20 and 25 years of age, and was double that of men under 20 years of age. Between 25 and 30 years of age the ratio fell somewhat, and in the succeeding quinquennia up to 40 years of age it fell still more rapidly, after which there was a slight increase. In the previous year the sequence of ratios was the same. Compared with a similar return in the previous year, the ratios at all the different age periods show a decrease, but in the period from 25 to 30 years of age only to a fractional extent. The mortality rate among men under 20 years of age was but small, but that among men between 20 and 25 years of age was five times as much; the death rate further gradually increased through the two succeeding quinquennia, and then fell a good deal among men between 35 and 40 years of age, afterwards rising considerably among men over 40 years of age. There is no similarity between the sequence of these ratios and that of the ratios recorded in the preceding year, and comparing the ratio at each age period with that in 1889 a decrease is observed in each instance until 40 years of age is reached, when an increase is shown.

The next table is given to show as far as possible the influence of length of service in the country on the sickness and mortality among the troops during the year:—

Length of Service.	Average Strength.	Admissions.	Deaths.	Invaliding.	Ratios per 1,000 of Strength.		
					Admissions.	Deaths.	Invaliding.
Under 1 year - -	2,174	3,023	29	28	1390·5	13·33	12·88
From 1 to 2 years -	2,708	3,956	21	69	1460·8	7·75	25·48
„ 2 „ 3 „ -	2,911	3,846	29	77	1321·2	9·96	26·45
„ 3 „ 4 „ -	1,630	2,334	17	38	1431·9	10·43	23·31
„ 4 „ 5 „ -	1,645	3,147	28	60	1913·1	17·02	36·47
„ 5 „ 10 „ -	1,749	2,277	28	33	1301·9	16·01	18·86
10 years and upwards -	610	462	8	6	757·4	13·11	9·83
Not stated - -	124	51	—	—	—	—	—
Total - -	13,551	19,096	160	311	1409·2	11·81	22·95

The admission ratio among men in their first year of service in India was rather high, though not so much so as in the previous year. Among men in their second year of service the ratio increased somewhat, fell among men in their third year, and increased among men in their fourth year. In last year's return there was a similar sequence of ratios for these three years. Among men in their fifth year of service the sick rate increased, and was highest of any period of service. Among men between 5 and 10 years' service the rate fell considerably, and still more among men over 10 years' service in the country. Comparing the ratios of each year and period of service with the corresponding rates in the previous year, a decrease is observed in all but two, the fifth year of service and over ten years' service; in these instances an increase has occurred. The mortality rate among men in their first year was high, but fell a good deal among men in their second year, after which it increased through the third and fourth years, and reached its maximum in the fifth year of service; the rate then fell among men between five and ten years' service, and still more among men over ten years' service. There is some similarity of sequence between these mortality ratios and those in the earlier years shown in the return for 1889. In that year the highest death rate was among men in their first year of service, and it and all the other ratios were in excess of the corresponding rates in the year under report.

The admissions, deaths, invaliding, &c., arranged according to the different groups and orders of diseases are shown in Abstract XXII., and in Abstract XXIII. are given the sickness and mortality, in each of the administrative circles, from the various orders of diseases.

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GENERAL DISEASES.—*Diseases dependent on Morbid Poisons.*—The admissions returned under the head of *eruptive fevers* were 9 in number, as compared with 50 in the preceding year. There were among these 6 cases of *small-pox*, none of them fatal, as compared with 32 cases and 6 deaths in 1889. The admission ratio, ·4 per 1,000, is below the rate in the previous year by 2·0, and is half the average rate of the preceding five years. Of the cases, two occurred at Bangalore, two at Secunderabad, and two at Thayetmyo, all were modified and mild cases. The remaining admissions for eruptive fevers were two for measles at Bangalore, and one for chicken-pox at Belgaum.

Enteric Fever caused 126 admissions and 49 deaths, as compared with 221 cases and 61 deaths in the previous year. The admission rate was 9·3 and the death rate 3·62 per 1,000, the former being lower by 7·0 than the ratio in 1889, and below the average ratio for the preceding five years by 1·9, while the latter is lower in the first comparison by ·88, and higher in the last by ·42. The mortality to attack was 38·9 per cent., as compared with 27·6 in the previous year and 28·6 the average per centage for five years. In Abstract XXV. there is a table taken from the report of the Principal Medical Officer, which shows the stations at which the admissions for, and deaths from, enteric fever took place in each of the four quarters of the year. As usual the greatest number of attacks and deaths occurred in the third quarter of the year, 49 cases and 21 deaths being returned, in the second quarter there were 31 cases and 14 deaths, in the fourth quarter 31 cases and 7 deaths, and in the first quarter 15 cases and 7 deaths. The number of stations at which the disease appeared was 17, and 12 cases are recorded among troops on the march. The greatest number of cases in any station was 27 at Bangalore, among which were 5 deaths; 11 of the cases occurred in the third quarter, 9 in the second, 5 in the fourth, and 2 in the first. The admission and mortality rates were 14·8 and 2·74 per 1,000, and are higher than the corresponding rates in the previous year by 2·9 and ·15 respectively. At the north station hospital there were 13 cases and 1 death; all the men were in their first year of service in the country, and eight of them were under 22 years of age. Eight men apparently contracted the disease at the musketry camp, three men came from barracks, one case occurred in hospital, and there was one man attacked who had been in attendance on certain other cases. In the south station hospital there were 14 cases and 4 deaths. The first case occurred in January, but the next not until June, during which time 4 cases were admitted, in July one case occurred, in August 4, in October 1, and in December 3. In none of the cases could the disease be traced to any well-defined cause, although careful investigation was made and the sanitary condition in and about barracks is, it is said, as good as it is possible to make it. With regard to the water supply every possible precaution is taken in the way of boiling and filtering in order to render the drinking water perfectly pure. The station at which the next highest number of cases occurred was Toungoo, 22 cases and 13 deaths; in the previous year there were no attacks. Most of the cases were of a very severe type. With the exception of a few all were young soldiers with short Indian service. The cause of the disease was obscure. The water was analysed and found to be pure. The drainage is in good order. The barracks well raised off the ground and thoroughly ventilated. The milk supply was somewhat doubtful, but arrangements were made to ensure purity. The bazar, however, is in an insanitary condition, and the water in the wells was impure, but the men were cautioned against drinking water or aërated waters, or purchasing milk brought into cantonments. At Secunderabad there were 15 attacks and 6 deaths, as compared with 162 and 42 respectively in the previous year. At the south station hospital there were 12 admissions and 6 deaths, which compare most favourably with 129 cases and 28 deaths in 1889. The 2nd Battalion Royal Inniskilling Fusiliers which suffered most in that year had only 4 admissions and 1 death in the year under report, and the 2nd Battalion Bedfordshire Regiment had 8 admissions and 5 deaths. The former regiment, it is said, had become more acclimatized and the men older. With regard to causation it is stated that the origin of the disease seems unaccountable. No point of sanitation was neglected. It would appear to be connected with the action of climate and season on unacclimatized constitutions. At the central station hospital there were 2 cases, for which no definite cause could be assigned, and at the north station hospital there was 1 case, a young soldier

19 years of age, who had only landed in the country during the previous month. At Rangoon there were 9 cases and 5 deaths, as compared with 5 cases and 4 deaths in the previous year. Four out of the five fatal cases were not attributable to Rangoon, the men having arrived from Upper Burma and had already contracted the disease. At Mandalay 8 attacks and 3 deaths occurred, as against 7 cases, 2 fatal, in the previous year. The majority occurred in the last quarter of the year. All the cases came from different barrack rooms, and the origin of the disease could not be traced. At Calicut 7 cases and 3 deaths are returned; in the preceding year there was only one admission. It is stated that it was discovered that these cases were undoubtedly due to contamination of the milk supply, and when this was rectified the disease ceased. At Wellington there were 6 admissions and 4 deaths, as compared with 9 attacks, two fatal, in the previous year. At Belgaum between the 5th July and 7th September, 5 cases of enteric fever occurred, one of which proved fatal; a searching inquiry was made into the causation of the disease, but it ended unsatisfactorily. The source of the disease most probably was in the bazar, which is within easy reach, and is much frequented. At Myingyan there were 3 fatal cases of enteric fever, the same number as in the previous year. At Cannanore there were also 3 cases, but only one proved fatal; the men attacked all came from the same barrack room, but the cause of the disease was not traced. At Thayetmyo and Bernardmyo there were at each 2 admissions and 1 death; there were single cases, fatal, at Madras, Bellary, and Port Blair, and single cases, recoveries, at Poonamallee and Meiktila. *Madras.*

Simple Continued Fever caused 746 admissions and 1 death. The admission ratio, 55·1 per 1,000, is lower than the corresponding rate in the previous year by 27·1, and below the average rate of the preceding five years by 21·9. The death rate is the same as in 1889 and almost the average. The ratio constantly sick from these diseases was 2·16 per 1,000, which is lower by 1·72 than in the previous year, and below the average rate by 1·35. The greatest prevalence of these fevers was, as in 1889, in the Madras district, 88·1 per 1,000, which, however, is not quite half the rate in that year. The next prevalence was in the Secunderabad district, the ratio being 77·7 per 1,000, a decline of 33·2; this was followed by 68·2 per 1,000 in the Southern district, a decrease of as much as 100·1. The lowest ratio of prevalence was 13·6 per 1,000 in the Myingyan and Mandalay district, the next above being 47·3 in the Rangoon district, and 59·2 in the Belgaum and Bangalore districts; of these the first and last have declined by 18·1 and 25·8 respectively, but that of the Rangoon district has increased by 21·9 as compared with the corresponding rate in the previous year.

Cholera.—There was only one case of cholera during the year, and it terminated fatally. In the previous year there were 30 cases and 25 deaths. The case occurred in Madras in the month of August when the disease was very prevalent among the civil population.

Dysentery was the cause of 558 admissions and 10 deaths, including that of an invalid after leaving the Command. The admission ratio was 41·2 per 1,000 which is lower than in the previous year by 4·0, and than the average rate of the preceding five years by 16·2. The death rate ·74 is lower in these comparisons by ·96 and ·82, and the constantly sick rate 2·70 lower by ·30 and 1·82 respectively. In Abstract XXVII. there is a table taken from the report of the Principal Medical Officer in which is given the prevalence of dysentery in each of the divisions of the Command, and in Abstract XXVIII. there is a table showing the prevalence of, and mortality from, this disease in each quarter of the year. The greatest prevalence of dysentery in any district was in that of Rangoon, the admission ratio being 89·5 per 1000, the next ratio was 50·8 in the Madras district, and 45·8 in the Myingyan and Mandalay district; the lowest admission rate was 23·5 per 1,000 in the Belgaum and Bangalore district, the next above being 25·8 in the Secunderabad district, and 38·3 in the Southern district. Compared with corresponding ratios in the preceding year there was an increase of 11·2 in the admission ratio in the Southern district, and to a fractional extent in the Myingyan and Mandalay district; in all the remaining districts a decrease is observed varying from 26·8 in the Rangoon district to 1·7 in the Belgaum and Bangalore district. Mortality in any district was highest in Madras, the rate being 3·83 per 1,000 as against *nil* in the previous year, the next rate

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was 1·14 in the Rangoon district, an increase of 2·7; then ·74 in the Myingyan and Mandalay district, a decline of 1·24, and then ·72 in the Southern district, a fractional decrease; in the Belgaum and Bangalore, and Secunderabad districts the death rates were *nil* as compared with ·80 and 1·54 respectively in 1889. The admission rate for dysentery among troops on the march, 54·5 per 1,000, is considerably less than that in the previous year, and there was no mortality. As to seasonal prevalence the highest ratio of admission was 14·36 per 1,000 in the third quarter, followed by 10·07 in the second, 9·02 in the fourth, and 7·46 in the first. In the previous year the greatest prevalence was also in the third and second quarters, but the least was in the fourth quarter. Compared with corresponding ratios in the preceding year there is a decrease in the ratios of the first, second, and third quarters, but an increase in the fourth. Mortality gave the highest ratio, ·36 per 1,000, in the second quarter, ·22 in the fourth, ·07 in the third, and *nil* in the first. In the previous year the highest rate of mortality was in the third quarter and the lowest in the first. Compared with the ratios in 1889, that of the second quarter shows an increase, but those of the other three quarters a decrease, especially marked in the third quarter.

Influenza was epidemic during the earlier part of the year, as many as 716 admissions being returned, equal to a ratio of 52·8 per 1,000. Of the admissions 470 occurred in the Madras Presidency proper, 28 at Port Blair, and 218 in Burma. The cases in Madras occurred chiefly between the middle or end of March and the beginning of May, the cases at Port Blair in April and May, and the cases in Burma in May and June. In Madras the disease appeared among the troops at eight stations, Secunderabad alone showing 238 admissions; among other stations affected Belgaum had 64 cases, Poonamallee 49, Wellington 47, Madras 39. In Burma four stations were attacked, Thayetmyo with 147 cases, Rangoon 59, Mandalay 11, and Bernardmyo 1 case. From the majority of the stations attacked it is reported that the epidemic was generally mild, though at certain stations some of the cases were severe and complicated and followed by troublesome sequelæ. In Burma, when the weather was hot and dry in the first part of the epidemic, the cases were mostly mild, but afterwards when the weather became moist, the cases were often more severe and complicated with pulmonary affection. One death is returned from this disease at Bernardmyo.

Other diseases of the first sub-group of diseases were represented by 7 cases of mumps.

Malarial Fevers caused 3,481 admissions and 12 deaths, including one of an invalid after leaving the Command. The admission ratio, therefore, was equal to 256·9 per 1,000, the mortality rate to ·89, and the constantly sick rate to 8·30 per 1,000. Compared with corresponding ratios in the previous year, a decrease of 103·3 is observed in the rate of admission, one of ·66 in that of mortality, and one of 2·96 in that of constantly sick, but compared with similar average ratios for the preceding five years the admission rate is increased by 55·2, and the constantly sick rate by 1·63; in the death rate there is a decrease of ·19. With regard to the prevalence of malarial fevers in the different districts, it will be seen on reference to Abstract XXIII. that the two Burmese districts show by far the greatest amount of malarial fever, the admission rate in the Myingyan and Mandalay district being 573·4 per 1,000, and that in the Rangoon district 340·3; of the districts in Madras proper the highest admission ratio was 232·6 in the Belgaum and Bangalore district, the next 107·5 in the Madras district, followed by 77·7 in the Southern district, and 30·8 in the Secunderabad district. In the previous year also the highest ratios were in the Myingyan and Mandalay district and Rangoon district, but the lowest rate was in the Madras district. Compared with corresponding ratios in the preceding year, there is a marked decrease in the prevalence of malarial fevers in the Myingyan and Mandalay district the ratio of admission having fallen by 423·1, and in the Secunderabad district a slight decrease 11·3 is observed; in the remaining districts the admission rates have increased, that in the Madras district by 72·2, that in the Rangoon district by 42·5, that in the Southern district by 25·7, and that in the Belgaum and Bangalore district by 9·2. With regard to mortality, 6 deaths, or 2·21 per 1,000, occurred in the Myingyan and Mandalay district, the ratio is lower than in the previous year by 2·74; there were 2 deaths in the

Rangoon district, the ratio being 1·14 per 1,000, an increase of ·27, and there was one death in the Belgaum and Bangalore district, equal to a rate of ·28 per 1,000, as compared with *nil* in the previous year; there was no mortality in the remaining districts. At the depôts the admission rate was 224·4, and the death rate 3·59 per 1,000, as compared with 76·4 and *nil* in 1889. The ratio of admission among troops on the march, 412·4 per 1,000, shows a marked decrease. Of the total number of admissions 3,338 with 5 deaths were returned as ague, 97 with 5 deaths as remittent fever, and 46 with one death as malarial cachexia. Of these, 2,023 cases of ague with 3 deaths, 73 cases of remittent fever with 5 deaths, and 29 cases of malarial cachexia occurred in Burma. The death of the invalid after leaving the Command was returned as malarial cachexia. *Madras.*

Septic Diseases.—Six admissions and one death are shown as compared with 9 admissions and no death in the preceding year. The cases were 3 of erysipelas, 2 of pyæmia, one of which was fatal, and 1 of sloughing phagedæna.

Venereal Diseases.—The admissions for *primary syphilis* were 2,050 in number, being in the ratio of 151·3 per 1,000, which is higher than the corresponding rate in the previous year by 21·8. The average number constantly sick from primary syphilis was 180·11, equal to a ratio of 13·29 per 1,000, which shows an increase of 1·26 on the last year's rate. Including the sickness from simple venereal ulcer, for which there were 719 admissions and 49·51 men constantly sick, the ratio of admission for primary venereal sores was 204·3 per 1,000, which differs only fractionally from the corresponding rate in the preceding year, but is above the average rate of five years by 39·5. The ratio constantly sick was 16·94 per 1,000, which is lower by ·90 than in the previous year, but above the average rate by 4·19. *Secondary syphilis* caused 1,234 admissions and 2 deaths, and 128·17 men were constantly sick from this affection. The admission rate reached 91·1, and the ratio of constant inefficiency 9·46 per 1,000, which are above the corresponding ratios in the previous year by 39·0 and 3·65, and above the similar average ratios for the preceding five years by 55·0 and 5·63 respectively. *Gonorrhœa* was the cause of the admission of 1,857 men and of 142·01 men being constantly sick. The ratios, therefore, were 137·0 and 10·48 per 1,000, which compare favourably with those of previous years, being below the ratios in 1889, by 17·5 and 1·33, and below the quinquennial average rates by 17·1 and ·61. Including all forms of venereal disease the total admission rate was 432·4 per 1,000, which is higher than in the previous year by 20·8, and than the average rate of the preceding five years by 77·4. The total ratio of constant inefficiency from these diseases was equal to 36·88 per 1,000, which is in excess of the rate in 1889 by 1·42, and above the quinquennial average rate by 9·21.

In Abstract XXIII. will be found figures showing the comparative prevalence of venereal diseases, not including simple venereal ulcer, in the different districts. Taking primary syphilis it will be found that the highest admission ratio was 178·9 per 1,000 in the Southern district, the next being 173·9 in the Rangoon district, and 159·4 in the Secunderabad district; the lowest ratio was 118·8 in the Myingyan and Mandalay district, the next above being 131·2 in the Madras district, and 155·6 in the Belgaum and Bangalore district. In the preceding year the highest ratio was in the Belgaum and Bangalore district and the lowest in the Southern district. Compared with corresponding ratios in 1889 an increase of 120·7 is observed in the admission ratio for the Southern district, one of 76·1 in the Rangoon district, and one of 46·6 in the Secunderabad district; in the remaining districts a decrease has occurred, being 33·3 in the Belgaum and Bangalore district, 22·3 in the Myingyan and Mandalay districts, and 18·5 in the Madras district. With regard to secondary syphilis it is found that the highest ratio of prevalence was 108·9 per 1,000 in the Secunderabad district, next 95·8 in the Southern district, and 76·7 in the Myingyan and Mandalay district, followed by 76·1 in the Belgaum and Bangalore district, 75·3 in the Madras district, and 67·8 in the Rangoon district. In the preceding year also the highest and lowest admission rates were in the Secunderabad and Rangoon districts respectively. Comparing the ratios in the year under report with those in the previous year an increase is observed in all of them, being 51·3 in the Southern district, 33·7 in the Myingyan and

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Mandalay district, 32·3 in the Rangoon district, 32·0 in the Belgaum and Bangalore district, 23·3 in the Madras district, and 20·8 in the Secunderabad district. For gonorrhœa the highest admission rate in any district was 192·2 per 1,000 in the Myingyan and Mandalay district, the next 187·4 in the Southern district, and 146·5 in the Rangoon district; the lowest admission ratio was 108·0 in the Belgaum and Bangalore district, the next above 108·6 in the Madras district and 118·9 in the Secunderabad district. In the previous year also the highest ratio was in the Myingyan and Mandalay district, but the lowest was in the Rangoon district. Compared with last year's return the admission ratio in the Southern district shows an increase of 26·5 and that in the Rangoon district one of 16·7; the ratios in the four remaining districts have declined; the Madras district by 100·3, the Secunderabad district by 38·0, the Belgaum and Bangalore district by 36·0 and the Myingyan and Mandalay district by 17·2. Taking all these forms of venereal disease together the highest admission ratio in any district was 462·1 per 1,000 in the Southern district, the next being 388·2 in the Rangoon district, and 387·8 in the Myingyan and Mandalay district, followed by 387·2 in the Secunderabad district, 339·7 in the Belgaum and Bangalore district, and 315·1 in the Madras district. In the previous year the highest admission ratio was 410·6 in the Madras district and the lowest 263·1 in the Rangoon district. Compared with corresponding ratios in 1889 there is an increase of 198·5 in the admission ratio in the Southern district, one of 125·1 in the Rangoon district, and one of 29·4 in the Secunderabad district; in the Madras district there was a decrease of 95·5, in the Belgaum and Bangalore district a decrease of 37·3, and in the Myingyan and Mandalay district one of 5·7.

In Sub-Group V. one admission and one death are recorded, a case of hydrophobia, which occurred at Bhamo; the man had been bitten on the hand by his dog about two months previously.

Parasitic Diseases.—There were 42 admissions recorded, equal to a ratio of 3·1 per 1,000, which is higher than that in the previous year by ·4. All admissions, with the exception of 3 for ascaris lumbricoides, all were caused by tænia solium.

Scurvy.—2 admissions are shown as compared with 4 in the previous year. One case occurred at Calicut and the other at Rangoon. The admissions for *alcoholism* were 91 in number, the ratio being 6·7 per 1,000 as compared with 8·0 in 1889. Of the cases 5 were delirium tremens, but none proved fatal.

Debility, &c.—Under this head 433 admissions and 1 death are returned. The admission ratio 32·0 per 1,000 is below the rate in the preceding year by 1·4, but above the average rate. The highest admission ratio in any district was 58·1 per 1,000 in that of Madras, the next being 46·9 in the Myingyan and Mandalay district, and 46·2 in the Rangoon district; the lowest rate was 10·5 in the Belgaum and Bangalore district, the next above being 23·4 in the Southern district, and then 31·5 in the Secunderabad district.

Rheumatism caused 539 admissions and 1 death. The admission ratio therefore was 39·8 per 1,000, which is higher than the corresponding ratio in the previous year by 10·3 and is also above the average rate of the preceding five years. Out of the total number of cases treated there were 6 of rheumatic fever, one of which proved fatal. The greatest prevalence of rheumatism was in the Rangoon district, the ratio being 47·9 per 1,000; the next ratio was 44·6 in the Belgaum and Bangalore district, followed by 37·3 in the Myingyan and Mandalay district and in the Southern district, and then 31·9 in the Secunderabad district and 30·1 in the Madras district. In the preceding year the greatest prevalence of rheumatism was in the Madras district and the least in the Secunderabad district. Compared with corresponding ratios in the preceding year there is a decrease of 17·7 in the admission rate in the Madras district and one of 3·8 in the Myingyan and Mandalay district; in the remaining four districts an increase has occurred, 18·8 in the Southern and Secunderabad districts, 17·8 in the Belgaum and Bangalore district, and 12·8 in the Rangoon district.

Tubercular Diseases.—42 admissions and 11 deaths are recorded, including the deaths of 3 invalids. The admission rate was 3·1 and the death rate ·81 per 1,000 as compared with 1·7 and ·59 respectively in the previous year. With one exception all the admissions were for lung affection, and the deaths, including those of the invalids, were also due to this cause. The greatest pre-

valence of tubercular disease in any district was in the Madras district, the admission rate being 4·3 per 1,000; the next rate was 2·6 in the Myingyan and Mandalay district, followed by 2·5 in the Belgaum and Bangalore district, 2·1 in the Secunderabad district, 1·1 in the Southern district, and ·6 in the Rangoon district. In the previous year the highest rate was in the Secunderabad district, 2·7 per 1,000, and the lowest, *nil*, in the Southern district. Compared with last year's return the rate of prevalence decreased in the Secunderabad and Rangoon districts, but increased in the remainder. *Madras.*

Other diseases of this group caused 124 admissions and 1 death. The admission rate was 9·1 per 1,000 as compared with 8·8 in the preceding year. Of the total number of admissions, 66, or more than half, were cases of non-malignant new growth, chiefly papilloma; there were also 46 cases of anæmia, 7 of scrofula, 2 of purpura, 2 of malignant disease, one of which proved fatal, and 1 case of leprosy.

LOCAL DISEASES.—*Diseases of the Nervous System* caused 148 admissions and 4 deaths, being in the ratios of 10·9 and ·29 per 1,000. The admission ratio is higher than that in the previous year by 1·3, but lower than the average ratio for the preceding five years. The greatest prevalence of nervous affections in any district was in that of Madras, where the ratio was 23·6 per 1,000, an increase of 16·3 on the corresponding rate in the previous year, the next two ratios were 14·7 and 12·8 per 1,000 in the Belgaum and Bangalore district, and in the Southern district, the former being almost identical with, and the latter above by 2·9, the similar ratios in the preceding year; the lowest admission ratio was 6·6 in the Myingyan and Mandalay district, the next above being 7·4 in the Rangoon district and 8·6 in the Secunderabad district; compared with last year's rates there is little or no difference in the first named, in the second there is a decline of 2·7, and in the third an increase of 3·2. The admissions included 25 for mental disease, equal to a ratio of 1·8 per 1,000 as compared with 1·5 in the previous year. Among the remainder of the admissions were 82 for some form of neuralgia, 12 for epilepsy, and 7 for paralysis. The deaths were from inflammation of the cerebral membranes, apoplexy, epilepsy, and tetanus one respectively.

Diseases of the Eye.—The admissions numbered 196, being in the ratio of 14·5 per 1,000, which is above the rate in the previous year by 3·0, and also somewhat above the average rate. The greatest prevalence of ophthalmic affections was in the Myingyan and Mandalay district, the rate being 21·0 per 1,000; the next rate was 18·5 in the Belgaum and Bangalore district, and then 17·0 in the Southern district; the lowest ratio was in the Rangoon district, 9·1, the next above, 9·3, in the Secunderabad district, and 11·8 in the Madras district. Compared with last year's return a decrease is observed in the admission ratio of the Madras, Secunderabad, and Rangoon districts, but an increase has occurred in the remainder. The principal causes of admission were conjunctivitis 122 cases, and iritis 22 cases.

Diseases of other Organs of Special Senses gave an admission ratio of 14·5 per 1,000, identical with the ratio for ophthalmic affections. Compared with the previous year's rate an increase of 4·4 is observed, but the rate differs but little from the quinquennial average. As in the preceding year, the highest ratio for these affections was in the Madras district, the ratio, 29·0 per 1,000, being almost identical with the rate in that year; the next ratio was 17·0 in the Southern district, and then 15·2 in the Belgaum and Bangalore district; the lowest ratio was in the Myingyan and Mandalay district 9·6, the next above being 13·6 and 13·7 in the Secunderabad and Rangoon districts respectively. Of 196 admissions 6 were for nasal affections and the remainder for aural diseases, 160 being cases of inflammation of the external meatus.

Diseases of the Circulatory System were the cause of 107 admissions and 3 deaths, being in the ratios of 7·9 and ·22 per 1,000 respectively. The admission ratio shows a fractional decrease from the previous year's rate, and is also below the average rate; the mortality rate has also declined in both these comparisons. The greatest prevalence of these diseases in any district was, as also in the previous year, in that of Madras, the ratio being 15·0 per 1,000, which was followed by 10·4 in the Secunderabad district and 7·4 in the Rangoon district; the lowest ratio was 4·8 in the Myingyan and Mandalay district, the next above 5·3 in the Southern district and 6·6 in the Belgaum and Bangalore district. Compared with corresponding ratios in the preceding

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year, the ratio in the Southern district is increased by 4·1, that in the Madras district by 1·5, and that in the Secunderabad district by ·4; in the Myingyan and Mandalay district the admission ratio has decreased by 4·1, and in the Rangoon and Belgaum and Bangalore districts to a fractional exent. In three districts there was no mortality, but the rate in the Myingyan and Mandalay district was ·37, in the Secunderabad district ·36, and in the Belgaum and Bangalore district ·28 per 1,000. The most frequent cause of admission was palpitation, 61 cases having occurred; among the remainder were 21 cases of valvular disease of the heart, 9 of hypertrophy of the heart, and 7 of varix. The deaths were one from valvular disease, one from fatty degeneration of the heart, and one from aneurysm of the aorta.

Diseases of the Respiratory System caused 409 admissions and 16 deaths, including 8 of invalids which occurred after leaving the Command. The admission rate was 30·2 per 1,000, and the death rate 1·18, which are higher than the corresponding ratios in the preceding year by 9·7 and ·51 respectively, and are also above the similar average ratios for the previous five years. For the fourth year in succession the Southern district shows the greatest prevalence of respiratory disease, the admission ratio being 40·5 per 1,000, the next ratio was 37·6 in the Madras district, followed by 37·4 in the Belgaum and Bangalore district; the lowest ratio was 16·5 in the Secunderabad district, the next above 26·2 in the Myingyan and Mandalay district, and 29·1 in the Rangoon district. With the exception of the ratio in the Secunderabad district, which has declined by 4·4, all the rates have increased as compared with the last year's return, that in the Belgaum and Bangalore district by 21·7, that in the Madras district by 15·8, that in the Rangoon district by 11·6, that in the Myingyan and Mandalay district by 7·4, and that in the Southern district by 2·1. Of the mortality in the country the highest ratio was 1·11 per 1,000 in the Myingyan and Mandalay district, the next 1·08 in the Madras district, and 1·06 in the Southern District; in the Belgaum and Bangalore district there was no mortality, in the Rangoon district it was equal to ·57 and in the Secunderabad district to ·71 per 1,000. The principal causes of admissions were bronchial affections, 328 being returned; among the remainder were 34 of pneumonia, 20 of pleurisy, and 8 of pneumonic phthisis. The deaths in the country were 3 from pneumonia and 1 from pulmonary apoplexy, abscess of the lung, pneumonic phthisis, pleurisy and empyema; and the deaths of invalids were 3 from bronchitis, 3 from pneumonia, one from pleurisy, and one from pneumonic phthisis.

Diseases of the Digestive System.—There were 1,392 admissions and 23 deaths, including 4 of invalids who had left the Command, being in the ratios of 102·7 and 1·70 per 1,000, which are lower than the corresponding rates in the preceding year by 13·5 and 1·03 respectively, and also below the quinquennial average rates. The greatest prevalence of these diseases in any district was in that of Madras, the admission ratio being 154·8 per 1,000, the ratio next in order was 117·7 in the Myingyan and Mandalay district, and then 105·4 in the Southern district; the lowest ratio was 81·7 in the Secunderabad district, the next above being 86·1 in the Rangoon district and 97·7 in the Belgaum and Bangalore district. Compared with corresponding ratios in the previous year, an increase of 17·6 has occurred in the ratio of the Madras district, but in all the other districts a decrease is observed, being 117·4 in the Southern district, 86·4 in the Secunderabad district, 52·1 in the Rangoon district, 37·2 in the Myingyan and Mandalay district, and 13·9 in the Belgaum and Bangalore district. Mortality was also greatest in the Madras district, the death rate being 5·38 per 1,000, the next rate was 1·84 in the Myingyan and Mandalay district, then 1·71 in the Rangoon district, 1·08 in the Secunderabad district, and ·55 in the Belgaum and Bangalore district; in the Southern district there was no mortality. Compared with last year's return there is an increase of 1·22 in the ratio in Madras, but the remaining ratios all show a decrease. The diseases causing the greatest number of admissions were affections of the mouth and throat, 408 cases, dyspepsia 112, diarrhœa 230, and hepatic diseases 419 cases, including 21 cases of abscess of the liver. The deaths in the country were 12 from hepatic abscess, 4 from hepatitis and 1 from gastritis, enteritis, and typhlitis respectively. The deaths of invalids were 2 from abscess of the liver, 1 from jaundice, and 1 from hepatitis. In Abstract XXVII. will be found a table showing the prevalence

and mortality from, diarrhœa and hepatitis and abscess of the liver in each of the divisions of the Command during the year, and in Abstract XXVIII. there is a table showing the prevalence of and mortality from these diseases in each quarter of the year. For diarrhœa the admission rate was 17·0 per 1,000 as compared with 39·2 in the previous year. There was no mortality from diarrhœa. The greatest prevalence of this affection in any district was in the Myingyan and Mandalay district, as was also the case in the previous year, the ratio of admission was 39·5 per 1,000, the next rate was 18·8 in the Rangoon district, followed by 14·0 in the Secunderabad district, 11·6 in the Southern district, 7·7 in the Madras district, and 6·1 in the Belgaum and Bangalore district. All these ratios have declined as compared with the corresponding results in the preceding year. The disease was most prevalent in the second quarter of the year, the ratio being 7·53 per 1,000, in the first and third quarters the ratios were 3·57 and 3·36 respectively, and the lowest ratio 2·44 was in the fourth quarter. In the preceding year the greatest prevalence was in the third quarter and the least in the fourth. The total admission rate for hepatitis and abscess of the liver was 11·9 per 1,000 and the death rate 1·11, which are lower than the corresponding rates in the previous year by 6·3 and 1·17 respectively. The highest rate of prevalence of these diseases in any district was 20·1 per 1,000 in the Madras district, the next 18·8 in the Rangoon district, followed by 11·6 in the Southern district, 11·4 in the Myingyan and Mandalay district, 11·1 in the Belgaum and Bangalore district, and 7·2 in the Secunderabad district. Compared with corresponding ratios in the preceding year, no change has taken place in that of the Southern district, but in those of all other districts a decrease is observed. Mortality was highest in the Myingyan and Mandalay district, 1·84 per 1,000, the next ratio was 1·71 in the Rangoon district, followed by 1·07 in the Secunderabad district, ·96 in the Madras district, and ·55 in the Belgaum and Bangalore district. All these ratios show a decrease as compared with the return for the previous year. As to seasonal prevalence it is observed that the highest admission rate was 3·3 per 1,000 in the first quarter of the year, the next 3·1 in the third quarter, then 3·0 in the fourth quarter, and lastly 2·6 in the second quarter. In the previous year the greatest prevalence was in the third quarter and the least in the second. Mortality was highest in the third quarter, ·50 per 1,000, next in the first ·31, then in the fourth ·22, and least in the second ·07 per 1,000. *Madras.*

Diseases of the Lymphatic and Glandular System caused 990 admissions, equal to a ratio of 73·1 per 1,000, which is higher than the corresponding rate in the previous year by 12·9, and a good deal above the average rate. As in the preceding year the Madras district gave the highest rate of prevalence of these diseases, 112·9 per 1,000, which scarcely shows any change from the last return. The next ratio was 76·4 in the Myingyan and Mandalay district, followed by 71·6 in the Secunderabad district; the lowest rate was 55·9 in the Rangoon district, the next above being 57·5 in the Southern district and 71·4 in the Belgaum and Bangalore district. The cases treated included 20 of splenic disease and one returned as lymphadenoma. The chief causes of admission were inflammation and suppuration of the inguinal glands.

Diseases of the Urinary System.—32 admissions and 1 death are recorded. The admission ratio, 2·4 per 1,000, is almost identical with that in the previous year. The highest ratio of prevalence in any district was 4·6 per 1,000 in the Rangoon district; in the Southern district the ratio was *nil.* Among the cases treated were 11 of incontinence of urine, 9 of Bright's disease, 2 of nephritis, one of which proved fatal, and 6 of cystitis.

Diseases of the Generative System were the cause of 950 admissions and 1 death. The admission ratio, 70·1 per 1,000, was lower than that in the preceding year by 25·6. As in 1889 the greatest prevalence of these diseases was in the Madras district, the rate being 131·2 per 1,000, the next was 115·2 in the Myingyan and Mandalay district, followed by 70·9 in the Secunderabad district, 66·0 in the Southern district, 44·5 in the Rangoon district, and 39·3 in the Belgaum and Bangalore district. The principal cause of admission was simple venereal ulcer, 719 cases, and among the remainder were 118 of orchitis and 38 of urethral stricture, from which also one death is returned.

Diseases of the Organs of Locomotion caused 114 admissions, or 8·4 per 1,000, which is above the corresponding rate in the previous year by 2·7, and

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above the average rate. The highest admission ratio was 14·0 per 1,000, in the Madras district, and the lowest 3·9 in the Secunderabad district. More than half the admissions were caused by synovitis.

Diseases of the Connective Tissue gave 243 admissions, equal to a ratio of 17·9 per 1,000, which is about the average rate, though lower than the corresponding rate in the previous year by 2·5. Prevalence of these affections was greatest in the Southern district, and lowest in the Belgaum and Bangalore district.

Diseases of the Skin caused 854 admissions, being in the ratio of 63·0 per 1,000, which is below the corresponding rate in the previous year by 4·2, and also below the average rate. The highest rate of prevalence of cutaneous affections in any district was 140·9 per 1,000 in the Madras district, the next, 77·5 in the Rangoon district, and 73·5 in the Southern district; the lowest rate was 32·9 in the Secunderabad district, the next above 50·1 in the Belgaum and Bangalore district, and 72·0 in the Myingyan and Mandalay district. In the previous year also the highest and lowest ratios were in the same districts. The most frequent causes of admissions were eczema, ulcers, boils, whitlows, and ringworm.

Poisons caused 7 admissions but no death; in the previous year there were 4 admissions and 2 deaths. Five of the admissions were for poisoned wounds from stinging insects, and the other two for oxalic acid poisoning, accidental, the drug having been taken in mistake for magnesia.

Injuries.—The ratio of admission was 101·3 per 1,000, and that of mortality 2·73, which are below the corresponding rates in the previous year by 4·1 and 1·47 respectively, and also below the average rates for the preceding five years. General injuries caused 30 admissions and 27 deaths. The admissions comprised 18 for heat apoplexy, 7 for sunstroke, 4 for burns or scalds, and one for asphyxia from submersion. The deaths were 14 from heat apoplexy and one from sunstroke, also 9 from accidental drowning and 1 from hanging (judicial), plugging of air passages with foreign bodies, and burns respectively. Local injuries numbered 1,343 and the deaths 10. Contusions, wounds, and sprains caused the majority of the admissions, and among the remainder were 64 cases of fracture, and 9 of dislocation. The deaths were 4 from gunshot wounds, suicidal, 1 from gunshot wound, homicidal, the man having been shot by a comrade; 1 from penetrating wound of the pleura, the man having been mauled by a tiger while out shooting; 3 from fracture of the skull, resulting from falls, and 1 from concussion of the spinal cord, caused by the wheel of a gun-carriage passing over the man's body.

Among the surgical operations performed during the year were 8 cases of aspiration of liver on account of abscess, 3 cases of removal of non-malignant tumour, 1 of removal of testicle on account of malignant disease, and several minor operations, all with satisfactory result.

Invaliding.—The number of men invalided home during the year was 311, being in the ratio of 22·95 per 1,000, which is lower than the corresponding rate in the previous year by 7·43, and below the similar average rate for the preceding ten years by 5·39. In Abstract XLII. will be found the invaliding ratios for the different arms of the service, and also of the several corps which served in the Command during the year. In the cavalry the ratio of invaliding was 17·45 per 1,000, in the artillery it was 18·93, and in the infantry it was 22·83; all these ratios have declined as compared with corresponding rates in the previous year; that of the cavalry by 11·09, that of the artillery by 9·30, and that of the infantry by 3·27. Of the regiments of cavalry the 21st Hussars at Bangalore gave the highest admission rate, 20·17 per 1,000; in the 7th Hussars at Secunderabad, the rate was only 14·73. Among batteries of artillery, whose average annual strength was over 100 men, the highest ratios of invaliding occurred in No. 9 Battery, Southern Division, at Rangoon, 61·40 per 1,000, and in No. 1 Battery, Eastern Division, at Mandalay, 48·54 per 1,000; this was followed by 39·21 in No. 20 Field Battery at St. Thomas' Mount, and 29·94 in R Battery, Royal Horse Artillery, at Bangalore; there was no invaliding in M Battery, Royal Horse Artillery, at Secunderabad, or the 21st Field Battery at Bellary; a low ratio, 6·13 per 1,000, in No. 79 Field Battery at Secunderabad, and 8·70 in No. 13 Battery, Eastern Division, at Thayetmyo. Among infantry regiments the highest invaliding rate was 41·53 per 1,000, in the 1st

Battalion Duke of Cornwall's Light Infantry at Bellary, with a wing at Madras; the next, 39·45, in the 1st Battalion King's Own Scottish Borderers at Rangoon, and 32·66 in the 1st Battalion Hampshire Regiment at Mandalay; in the 2nd Battalion King's Own Yorkshire Light Infantry, at Bangalore, there was no invaliding; the rate in the 2nd Battalion Bedfordshire Regiment at Secunderabad, was 12·17, and that in the 1st Battalion Norfolk Regiment at Wellington 12·52 per 1,000. On previous pages tables are given which show the influence of age and service in the country on invaliding, from which it will be seen that the invaliding rate among men under 20 years of age was small, 10·89 per 1,000, among men between 20 and 25 years of age the rate was more than double, 23·67; in the next quinquennium it further rose to 25·91, after which age the rate decreased. In the previous year the ratio of invaliding under 20 years of age was also small, and considerably increased among men between 20 and 25 years of age; but after that age it varied but little through the succeeding quinquennia. With regard to service in the country the rate of invaliding of men under one year's service was 12·88 per 1,000, among men in their second year it was double, 25·48, and a little higher among men in their third year, falling slightly among men in their fourth year, but rising considerably among men in their fifth year, and then rapidly declining. In the previous year the invaliding ratios followed a similar sequence, though with the exception of that among men under one year's service in the country they were all higher than in the corresponding rates in the year under report. The principal causes of invaliding were dysentery 12 cases, or ·89 per 1,000, a decline of 1·54 from the rate in the previous year; secondary syphilis 71 cases, or 5·24 per 1,000, an increase of 2·0; debility 34 cases, or 2·51 per 1,000, a decline of 2·06; diseases of the nervous system 36 cases, or 2·65 per 1,000, of which 25 cases, or 1·84 per 1,000, were mental disease; the first of these ratios shows a decrease of ·81, but the second has increased by ·73; diseases of the circulatory system 23 cases, or 1·70 per 1,000, a decline of 1·33, and diseases of the digestive system 24 cases, or 1·77 per 1,000, a decrease of 1·03. *Madras.*

The number of men finally discharged as medically unfit for further service was 204, being in the ratio of 15·05 per 1,000, which differs only fractionally from the corresponding rate in the previous year, but is higher than the decennial average rate by 1·56. The principal disabilities necessitating final discharge were secondary syphilis 14 cases, or 1·03 per 1,000, a decline of ·67 from the corresponding rate in the previous year; debility 41 cases, or 3·03 per 1,000, an increase of 2·29; diseases of the nervous system 30 cases, or 2·21 per 1,000 of which 16, or 1·18 per 1,000, were cases of mental diseases; both these ratios show a decrease as compared with the preceding year; diseases of the ear 11 cases, or ·81 per 1,000, an increase of ·22; diseases of the circulatory system 24 cases, or 1·77 per 1,000, a decrease of ·07; diseases of the digestive system 10 cases, or ·74 per 1,000, a decrease of ·15; diseases of the organs of locomotion 13 cases, or ·96 per 1,000, an increase of ·44, and injuries 14 cases, or 1·03 per 1,000, the same as the corresponding rate in the previous year.

Officers.—The average strength was 389, and there were 393 cases of illness, 3 deaths, and 61 officers were invalided to England. The ratio of prevalence of sickness was 1010·3 per 1,000, which is lower than the corresponding rate in the previous year by 27·7; the death rate, 7·71 per 1,000, was small as compared with that in the preceding year; but the invaliding rate, 156·81 per 1,000, shows an increase of 32·76. Among the cases treated were 19 of influenza, from which also a death is returned; continued fevers caused 34 attacks of illness, 2 of the cases being enteric fever. Malarial fevers show 92 attacks of illness, 13 being cases of remittent fever. There were 26 cases of dysentery, none of them fatal; 19 cases of debility are returned; there were 55 cases of diseases of the digestive system, of which 17 were diarrhœa, 14 hepatic diseases, and 2 peritonitis, one of which was fatal. Injuries were frequent, 56 being returned, including 5 cases of fracture, 2 of gunshot wound received in action, and 1 of concussion of the brain. There was one death from wounds, an officer while out shooting having been charged by a large tigress, the animal wounding him severely in the chest and left arm. The causes of invaliding were malarial fever 27 cases, debility 14, dysentery 6, diseases of the digestive system 4, injuries 3, nervous affections 2, and

Madras. enteric fever, secondary syphilis, gout, hydrocele, and synovitis one case respectively.

Women.—The average strength was 803, and there were 757 admissions and 9 deaths, being in the ratios of 942·7 and 11·21 per 1,000 respectively, which are lower than the corresponding ratios in the previous year by 40·1 and 10·93 respectively. Eruptive fevers caused 2 admissions for measles and 1 for small-pox. There were 29 admissions for influenza, and 1 death. Continued fevers caused 26 admissions, three being cases of enteric fever, one of which was fatal. Dysentery was the cause of 20 admissions, and malarial diseases of 82, of the later 64 were ague, 3 remittent fever, one fatal, and 15 malarial cachexia. Debility caused as many as 253 admissions, and anæmia 25. There were 29 admissions for nervous diseases, chiefly neuralgic affections, and 20 for ophthalmic affections, mostly conjunctivitis. Diseases of the respiratory system caused 54 admissions, of which 45 were due to bronchial affections. The admissions for digestive disorders were 88, the principal causes being affections of the mouth and throat 20 cases, gastritis 21, and enteritis 9 cases. The admissions for diseases of the generative system were 81 in number from various causes. In addition to the deaths already mentioned there were the following: one from alcoholism, tubercular disease of the lungs, pneumonia, heat apoplexy, gunshot wound, accidental, and sudden death in child-birth respectively.

Children.—The average strength was 1,495, and there were 1,276 admissions and 54 deaths, being in the ratios of 853·5 and 36·12 per 1,000, the former being higher by 60·2 and the latter lower by 24·02 than the corresponding rate in the previous year. Eruptive fevers included 3 cases of small-pox, 13 of chicken-pox, and 83 of measles. Influenza caused 25 admissions and whooping cough 7. Continued fevers were the cause of 111 admissions, of which one case was enteric fever. There were 69 admissions for dysentery, and 4 deaths; and malarial diseases caused 94 admissions and 3 deaths; of the cases 6 were remittent fever. 109 admissions for developmental disease are recorded, among which were 5 fatal cases of immaturity at birth, and 3, fatal, of debility. Tubercular diseases caused 4 admissions, 3 of which were fatal, and there were 20 admissions for anæmia. There were 21 admissions for nervous diseases, comprising 18 cases of infantile convulsions, with 11 deaths, 2 of meningitis, one fatal, and 1 of hysteria. Ophthalmic affections caused 125 admissions, all but three being cases of conjunctivitis. 237 admissions are shown for respiratory diseases, all but ten being bronchial affections; there was one death from bronchitis, one from croup, and one from pneumonia. Diseases of the digestive system gave 213 admissions, including 65 cases of teething with 11 deaths, 70 of enteritis with 7 deaths, and 27 of diarrhœa with 2 deaths. Other local diseases, with the exception of cutaneous affections, which caused 48 admissions, gave but little sickness. There was one death from abscess. Injuries caused 25 admissions, including 5 cases of fracture.

Sanitary Conditions.—In the Principal Medical Officer's report on the sanitary condition of the different districts and stations the following points are mentioned among others:—

Madras District.—The health of the troops was good, and the sanitary conditions of the barracks and buildings connected with them were generally satisfactory. At Madras, however, ventilating shafts in the rooms on the upper story of the artillery barracks are much needed, and the cook-house also requires improvement in ventilation. The married quarters in the infantry barracks are overcrowded, in consequence of which the ground floor is occupied. Some improvement in the drainage to the north of the fort was necessary as well as attention to the condition of the moat, but these points were under consideration. It is stated that it would be very desirable if steps could be taken to diminish the large number of natives who frequent the fort. Small native bazars are located inside the fort, but are really unnecessary. Sanction has, therefore, been given for their demolition, and the erection of a cook-house for the infantry in their place. Certain stables within the fort are to be removed and re-erected outside. The station hospital, in a portion of the civil general hospital, is not very satisfactory as regards position, being close to the Coum river and exposed to emanations from it. Some small wards for special cases are wanted. The cook-house required repair, and water

should be laid on to the upper story; but steps were being taken to carry out these services. Quarters for the hospital staff and servants are much required, as the latter live mostly at a considerable distance, which interferes with discipline. Sanction has, however, been given for the provision of these quarters as soon as funds are available. At St. Thomas' Mount are two new barracks for field artillery; they are satisfactory and have afforded sufficient accommodation. The surface drainage, built of cement, was not in as perfect a condition as might be, and a new scheme was under consideration. At Poonamallee there is, it is said, no proper surface drainage. The waste water from the plunge bath and the lavatories on the east side of the barracks runs into a tank about 50 yards distant. It is recommended that the tank be filled in and the drainage improved. There are no quarters for the hospital attendants, but an estimate for the provision of such has been sanctioned, though it is feared some time would elapse before funds are available. There is at present no soldier's institute, but on completion of the new barracks now in course of construction ample accommodation will be available for this purpose. At Pallaveram two of the places of arms and two of the small hospital blocks in rear of the former, and situated on the northern and more open side of the cantonment, are used as barracks when the infantry are going through musketry training. The buildings are well elevated and exposed to the sea, and their condition satisfactory. *Madras.*

Southern District.—There is an absence of ridge ventilation, or air shafts, in the lower rooms of barracks at Wellington, and the ventilation of the lower rooms occupied by married soldiers is indifferent. In order to obtain the necessary amount of air space in barracks a certain number of men of the depôt were put into empty married quarters for about five months of the year when the strength was greatest; one section was also placed under canvas. A cook-house for married soldiers is much required, as the cooking is now done in their quarters. Gratings over the waste pipe drains behind the staff sergeant's quarters, and those from the barrack cook-houses are much required. Gymnastic appliances, which exist for the regiment, are also desirable for the depôt in the interests of health and the development of the young soldier. Water is still distributed in mussaks, but barrels in lieu of them are strongly recommended. The hospital situated to the north-east, but slightly below the barracks, appears to be generally satisfactory, but the store-room is said to be in much need of repair and improvement; some office accommodation is also required. With regard to the rations it is said that the meat was not entirely satisfactory, being too thin; further, that it is issued too soon after being slaughtered, but there appear to be difficulties in having the meat hung for a couple of days, both on the part of the men and the contractor. At Cannanore the new barracks are occupied by European troops, a detachment of about one hundred men. All the water supply used by the men is obtained from wells sunk in laterite rock, and the quality is very good. Improvements are required in the latrines provided for followers, as they are at present unsuitable. It would be advisable to floor them with asphalte. At Malapuram the barracks are well situated, and surface drainage is aided by the natural conformation of the ground. The hospital is a very good building, and in every way suitable for the purpose required, but the apothecary's quarters are badly situated and their ventilation defective; the cook-house also requires improvement as regards ventilation. At Calicut the barracks are built of stone and roofed with tiles; they appear to have afforded satisfaction generally, but the lavatory and ablution accommodation was found to be insufficient, and the follower's latrine is badly constructed and difficult to keep clean.

Belgaum and Bangalore District.—The general health of the troops in this division was good and the sanitation of the buildings inhabited by the troops was generally well attended to. At Bangalore the barrack accommodation was found to be insufficient for the strength of the cavalry regiment quartered there, and it was therefore proposed to throw the small rooms at the end of each block into the main room. In this way one of the two inner verandahs might be vacated as a dormitory, as it is most undesirable to have sleeping apartments on either side of the central dormitory. The sergeant's mess in the cavalry barracks does not afford sufficient accommodation, and the saddlers'

Madras. and tailors' shops are not large enough for requirements. The infant school is too small, but might be enlarged towards the verandah end. The Parade barracks are overcrowded, there being under existing arrangements four rows of men in each block. It is very desirable that the number of rows should be reduced if possible to three, if accommodation could be obtained elsewhere, or a certain number of men placed under canvas, at least during the cold weather; however, it was thought that by re-arrangement of the occupation it would be possible to relieve four barracks of one row of cots each, and that further re-arrangement could be made on the departure of young soldiers for Wellington. The surface drainage in and about the European barracks is quite insufficient, with the exception of that of the Horse Artillery, and there is no arrangement around the blocks of buildings in the Parade barracks to carry off the rain from the roofs. The main drain on the east flank, which receives the whole of the barrack drainage, is found not to be large enough. It is stated that the planting of fast growing trees in all the barrack squares would be a very great improvement and would relieve the glare, which is at all times oppressive. With regard to the water supply it is stated that it is obtained from the Ulsoor tank, and is by no means above suspicion. There are no proper quarters for the apothecaries or the hospital servants in or near the hospital; the latter live in the bazars a long way from their work. To remedy this state of things proposals have been brought to the notice of the proper authorities. At Belgaum the barracks afford ample and excellent accommodation for the troops. The families are located in single-storeyed masonry buildings provided with verandahs on the south aspect. The floors of the rooms and verandahs are composed of rammed earth, which is objectionable, as they become muddy in wet, and dusty in dry weather. This has been brought to notice, but the cost of laying down impermeable floors is too great. The drainage is entirely surface throughout all the barrack squares, much of it *kucha*. There is great need of an extended system of well pointed surface drains over these grounds. Such drains are particularly required round the blocks of buildings in order to carry off rapidly rain water from the roofs and so prevent soakage in the direction of the foundations. The lavatories attached to the old blocks of the infantry barracks are old, and it is recommended that new ones of corrugated iron should be erected on fresh ground. The waste water from ablution rooms is received in receptacles and removed to a distance. It would be a great improvement if it were carried in *puckha* channels to the main drain. In the station hospital the verandahs of certain wards are floored with rammed earth, and it is consequently difficult to keep the wards clean; stone paving is required. In the hospital compound there are some quarters contiguous to one another which, it has been suggested, might be fitted up as quarters for two sick officers after a few structural alterations were affected. Round the hospital buildings stone-lined drains are required to facilitate the escape of storm water from the roofs, and these should be continued on to the main drain. At Bellary, also, the surface drainage also requires to be thoroughly carried out in well laid properly pointed channels. The water supply is from wells, and no change in the mode of distribution has been effected; the question of obtaining a good and wholesome supply of drinking water from a distance appears to be under consideration. The hospital is satisfactory, except that the water supply is insufficient for baths and the surface drainage about the building is inadequate. At Ramandroog the barracks are structurally very fair and are in a good state of repair. They are situated on a plateau about a mile and a quarter in length and half to three quarters of a mile in width. The plateau is flat, has an abundance of trees, and is almost entirely free from undergrowth or low jungle.

Secunderabad District.—The general health of the troops in this district was good. The sanitary conditions are mostly well reported on, but certain defects were brought to notice. There are no surface drains throughout the barracks, and the waste water from the ablution rooms and cook houses falls into masonry reservoirs outside the buildings, whence it is carried away; the storm water makes its own channels. In the entrenchment barracks each block has a central dormitory, on each side of which there is an inside and outside verandah. The inside verandahs are occupied as dormitories, so that there are four rows of beds in each block. It would be very desirable if

one of the inside verandahs were vacated, thus securing a much larger supply of air at night when most required. The only means of doing this, as has been suggested for barracks under similar circumstances at Bangalore, is to throw the non-commissioned officers' rooms at the end of each block into the main room. The institutes of the different regiments are on a very satisfactory footing and afford a large and wholesome supply of varied forms of food at very reasonable cost. The rations are generally fair, but the beef, though a great improvement on that issued in the previous year, was not entirely satisfactory. The station hospitals are in excellent working order, but at the south station hospital there are no appropriate offices, medical stores, library, or room for special orderlies. There is no dining hall, and several of the outbuildings are said to be unsuitable. *Madras.*

Rangoon District.—The health of the troops in the district was generally fair, and the sanitary condition of barracks and hospitals in most cases satisfactory. At Rangoon the infantry barracks are situated to the north-west in the cantonment on a high ridge, and occupy the most elevated position, and the accommodation is ample. The artillery barracks are much older than the infantry barracks, and, in both construction and site, not so good. The water supply of the cantonment is from wells and was of very fair quality, but the quantity during the hot weather is sometimes insufficient. Some proposals were advanced for the improvement of the water supply, such as deepening the present wells, conserving the rainfall from the roofs of the barracks, and distribution of water from the Royal lakes by means of pipes. It has been recommended that the matter should be referred to a select committee. During the year a large well-built block was erected as a regimental institute, containing reading rooms, coffee shop, billiard rooms, and recreation rooms. The supplies were always of good quality and prices moderate. With regard to drainage, it is said that open masonry drains surround each block of infantry barracks and convey the surface drainage to large masonry traps, whence it is carried by pipes down the side of a steep ridge; there is a good fall, and drainage is efficient. The same arrangements exist for the drainage of the artillery barracks, but owing to the low-lying flat ground are not so effective The station hospital consists of four large blocks, which afford ample accommodation. At Toungoo the barracks are lofty, double-roofed buildings protected by outer verandahs. Ventilation is effected by means of ridge, eave, and floor arrangement, as also by doors and windows. The water supply for the military population is obtained from wells, and was good and abundant. Samples of all the wells were analysed during an outbreak of enteric fever, with the result that they were all found to be pure. The station hospital has ample accommodation for fifty patients. One of the barrack blocks is set apart for coffee shop, institute, library, and recreation room. These are well attended with beneficial results. At Meiktila the soil is very dry, and consists almost entirely of permeable sandstone and gravel mixed with clay. On account of the nature of the soil there is very little cultivation in the immediate vicinity of the station. Four new permanent half-company barracks are now occupied, and four more would soon be taken over for occupation. An unlimited supply of water of excellent quality is obtainable from the lake. The station hospital is a new building, centrally situated, and similar to the barracks except that it is raised from the ground; it is surrounded by verandahs. The station is considered very healthy; no source of malaria is known in the vicinity, and cases of malaria that occur in the place, or those sent for change, make a good recovery. It has lately been recommended that a barrack capable of accommodating 80 men be erected for the reception of convalescents from other parts of Burma, for the purpose of recruiting their health. It is believed by the Principal Medical Officer that this station would make an excellent sanitarium for troops, and he strongly supports the proposal. At Port Blair the barrack is a large stone building well situated, with a flat roof and boarded floors. The accommodation is ample. The hospital is also excellently situated, being placed on the most northern extremity of the island. The ventilation, which is very good, is effected by means of open ridges. The water supply is from two wells, and is of good quality.

Myingyan and Mandalay District.—The health of the troops in the district greatly improved, it is said, during the year, and the sanitation of the barracks and buildings attached was on the whole satisfactory. At Mandalay

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all the barracks for European troops, with the exception of the mountain battery of artillery, are within the old city walls; the artillery is outside to the east of a low hill. During the year the cantonments were greatly improved by clearing the scrub and weeding the ground to make a grass farm, metalling some of the roads, planting trees, pulling down some of the native buildings, and providing surface drainage. The barracks occupied by the infantry are commodious, but those for the garrison artillery are too close together, not well ventilated, and do not make good barracks. It is proposed to build new ones. The mountain artillery barracks are built of teak, raised six feet from the ground, and are well ventilated, but are very hot in the hot season; there is a proposition that the battery should be moved into cantonments. The water supply for all purposes is from the moat; it is ample and of good quality considering the slight protection there is to prevent it from pollution. The station hospital is at the north-east corner of the cantonment. Quarters for the medical subordinates were in course of erection, and a new hospital for women has been built; the quarters for the hospital attendants outside the hospital compound are comfortable and substantially built. At Bhamo there are three forts, in the largest of which the whole of the garrison is quartered. It is surrounded, except at the south-west, by an undulating plain covered with thick jungle, which was removed in the previous year but quickly grew again; it has been cleared a second time and the roots removed as far as possible for a distance of about three hundred yards from the fort wall. All the barracks are now supplied with a double roof. Ventilation is by doors and windows, and by a small raised roof above the main roof, also by a space left between the side walls and roof. A new guard-room has been built near the main gate, and this and the cells are permanent buildings of teak on concrete platforms and surrounded by verandahs. The hospital is a substantial teak building of the same description as the barracks. The kitchen is of corrugated iron, and connected with the hospital by a covered way. A new range is required as there are no means for roasting or baking. A permanent building for the hospital attendants, who now live in temporary mat huts, is much required. At Shwebo six barracks have been built, and more will shortly be erected, but until the latter are completed some overcrowding will continue, which, however, during the cold weather, is not of much moment, as the men can sleep in the verandahs, but in the rains this is impossible. The hospital is very satisfactory except that at times the accommodation was not sufficient. Quarters for medical subordinates have been erected, and some for the hospital attendants, but more will shortly be built. At Thayetmyo the barracks afford ample accommodation. The water supply is from wells, it is fairly good but hard. During the year concrete flooring was provided for the infantry guard-room and lock-up, the infectious disease hut was rebuilt, and several improvements effected as regards drainage. At Myingyan the barracks consist of four commodious bungalows constructed of wood, elevated twenty feet from the ground, and roofed with shingle. Married accommodation is too limited, and more quarters are required. The officers' quarters are constructed of matting with grass roofs, which are not impervious to heat and rain; a double roof of thick thatch is much required. At Bernardmyo the barracks consist of four wooden buildings and one brick building. The station hospital is also a wooden building and affords very good accommodation. The water supply is of excellent quality, obtained from a hill to the east of the station and carried to it by bamboo pipes.

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The average strength of warrant officers, non-commissioned officers, and men during the year was 12,762, being slightly lower than the strength in the preceding year. The most important of the statistics of sickness and mortality are shown in the following table :—

1890. Average Strength.	Admissions.	Deaths			Invalids		Average Constantly Sick.	Ratios per 1,000 of Strength.				
		In the Command.	Of Invalids.	Total.	Sent Home.	Finally discharged.		Admissions.	Deaths.	Invalids sent Home.	Invalids finally discharged.	Constantly Sick.
12,762	17,846	122	10	132	368	236	995·50	1398·4	10·35	28·83	18·49	78·00

Compared with corresponding results in the previous year a decrease of 17·1 is observed in the ratio of admission, one of 4·99 in the ratio of mortality, and one of 1·28 in that of constantly sick; and compared with similar average ratios for the preceding ten years there is also a decrease in the admission ratio equal to 75·5 per 1,000, and one in the death rate equal to 5·81; but in the ratio of constant inefficiency through sickness there is an increase of 10·70. The average sick time to each soldier was 28·47 days, which is shorter by about half a day than the corresponding period in the previous year, but longer by 3·91 days than the similar average period for the previous ten years. The average duration of each case of sickness was 20·36 days, which differs very slightly from the corresponding period in the preceding year, but is longer than the decennial average period by 3·70 days.

The loss to the Command by death and invaliding was 490 men, and th loss to the service by death and final discharge from the service as medically unfit was 368, being in the ratio of 28·84 per 1,000 of strength, which is lower by ·61 than the corresponding rate in the previous year.

In Abstract XXX. will be found a table, taken from the report of the Principal Medical Officer, which shows the prevalence of sickness and mortality in the different administrative districts of the Command. The highest admission ratio in any district was 1806·0 per 1,000 in the Nagpur district, followed by 1509·2 in the Sind district, 1455·0 in the Mhow district, 1449·3 in the Bombay, Deesa, and Aden district, and 1239·1 in the Poona district. Mortality was also highest in the Nagpur district, the rate being 14·52 per 1,000; next in order was the Mhow district with 13·10, and the Bombay district with 10·47, followed by the Sind district with 9·62, and the Poona district with 5·34. Compared with a similar return for the preceding year, it is observed that in the Bombay, Deesa, and Aden district the admission rate was increased by 117·5, which was chiefly due to the greater prevalence of malarial fever, the mortality rate shows a decrease of 5·43, principally on account of the reduction of the number of deaths from enteric fever. In Sind there is a decline of 65·2 in the admission rate, and one of 4·25 in the death rate; in the Poona district the admission rate is lower by 98·6, and in the Mhow district by 76·7, while the death rates in these districts are lower by 2·28 and 9·79 respectively; the decrease of the sick rate in these districts was principally due to the diminished prevalence of malarial fever, and the decline would have been greater in the Sind and Mhow districts but for the increased amount of venereal disease; the diminution in the death rates was mostly due to the lessened mortality from enteric fever. In the Nagpur district the admission rate is increased by as much as 289·5, dependent, in a great measure, on the increase of malarial fever as well as of venereal disease. There was scarcely any change in the mortality rate in this district. In the Sanitaria the sick rate shows an increase of 223·9 and the death rate one of 6·37.

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In Abstract XXXI. is a table, taken from the report of the Principal Medical Officer, showing the admissions and deaths and ratios per 1,000 at the principal stations in the Command. Excluding stations with an average annual strength under 100 men, the highest admission ratio at any station was 1819·7 per 1,000 at Ahmednagar, which is lower than the corresponding rate in the previous year by 87·4, but above the similar average rate for the preceding ten years by 61·3. If it had not been for the large amount of venereal disease, though less than in the previous year, the admission ratio would have been very low. The ratio next in order was 1789·9 in Ahmedabad, which is below the rate in the previous year by 677·3, and below the decennial average rate by 81·5. The year was a healthy one and the amount of malarial fever a good deal less. The third ratio was 1730·8 at Kamptee, and was higher than that in the preceding year by 193·1; this increase is said to have been due almost entirely to the greater prevalence and severity of venereal diseases. The lowest admission ratio in any station was 1006·4 per 1,000 at Neemuch, and is lower by 49·7 than the corresponding ratio in the previous year, while it is below the average ratio for the preceding ten years by as much as 866·9. Ague was much less prevalent than usual, but venereal caused a good deal more sickness than in the preceding year. The ratio next above was 1042·6 at Kirkee, a decline of 95·3 from the last year's rate, and of 191·8 from the decennial average rate. The year was an exceptionally healthy one, and the admission ratio would have been very small but for the prevalence of venereal diseases. At Poona the admission ratio was 1,088·3 per 1,000, being below the last year's rate by 87·2, and below the average rate of ten years by 210·3; in this station also venereal diseases caused the greater part of the admissions. The highest mortality rate at any station was 19·18 per 1,000 at Deolalee, below that in the previous year by 1·56, but above the average rate for the previous ten years. Hepatic disease and tubercle of the lung caused half the deaths. The next death ratio was 17·70 at Nasirabad, an increase of 3·73 on the last year's rate, and rather above the average rate. Out of 14 deaths four were due to enteric fever and three to cholera. At Mhow the mortality ratio was 12·76, only about half the rate in the previous year, but above the average rate by 1·03. The decline is due to the decrease in number of deaths from enteric fever. The lowest mortality rate was in Kirkee, 2·66 per 1,000, below the rate in 1839 by 6·28, and below the average rate by 4·71; only 2 deaths occurred and one was a case of suicide. The ratio next above was 4·72 at Hyderabad, which shows an increase of 2·47 over the last year's rate, but is below the average rate by 4·63; here also only 2 deaths occurred. At Poona the death rate was 5·28 per 1,000, differing fractionally from the rate in the previous year, but below the average by 4·19. There were 11 deaths from various causes, including 2 from drowning.

In Abstract XLIII. is a table, taken from the report of the Principal Medical Officer, giving statistics of sickness and mortality in the different arms of the service, and also in the several regiments which served in the Command during the year. In the cavalry, the average strength of which was 500 men, there being only one regiment, the 18th Hussars, stationed at Mhow, the admission rate was 1,532·0 per 1,000, the death rate 18·00, and the constantly sick rate 79·00; compared with corresponding ratios in the preceding year a decrease is observed in all, being 152·7 in the case of admission, 38·09 in that of mortality, and 15·86 in that of constantly sick. The average sick time to each soldier was 28·83 days, and the average duration of each case of sickness 18·82 days, which are shorter than the corresponding periods in the previous year by 5·79 days and 1·73 days respectively. The average strength of the artillery was 2,603, and the number of batteries 21. The admission ratio, 1,383·4 per 1,000, is practically identical with the corresponding rate in the preceding year, the death rate, 5·38, shows a decline of 10·98, and the constantly sick rate, 79·37, has increased by 5·54. The average sick time to each soldier was 28·97 days, an increase of 2·02 days on the corresponding period in the preceding year, and the average duration of each case of sickness 20·94 days, an increase of 1·46 days. Excluding R Battery, Royal Horse Artillery, only two days in the Command, the highest admission rate in any battery was 2,055·1 per 1,000 in No. 27 Field Battery, stationed at Ahmedabad, the next being 2,043·1 in No. 17 Field Battery, at Ahmednagar, and then 1,798·5 in No. 36 Field Battery, at Hyderabad. The lowest admission ratio

was 878·4 per 1,000 in No. 35 Field Battery, at Kirkee, the next above being 951·4 in No. 5 Battery, Southern Division, at Aden, and then 962·2 in No. 72 Field Battery, at Deesa. The highest ratio of mortality in any battery was 28·04 per 1,000 in No. 42 Field Battery, at Nasirabad, the next ratio being 14·60 in No. 10 Field Battery, at Karachi, followed by 9·71 in No. 5 Battery, Southern Division. In ten batteries there was no mortality. The highest ratio of constantly sick was 144·40 per 1,000 in No. 17 Field Battery, the next being 111·81 in No. 27 Field Battery, and 101·04 in No. 36 Field Battery; the lowest ratio was 41·59 in No. 72 Field Battery, the next above being 51·33 in No. 48 Field Battery, at Nasirabad, and 53·11 in No. 5 Battery, Southern Division. In the Royal Engineers, with a very small average strength, the admission ratio was 730·8, and the constantly sick rate 8·46 per 1000, which are lower than the corresponding rates in the previous year by 47·0 and 21·17 respectively. The average sick time to each soldier was 3·09 days, and the average duration of each case of sickness 4·23 days, as compared with 10·81 days and 13·90 days respectively in the preceding year. In the infantry, average strength 7,588, the admission ratio was 1439·4 per 1,000, a decline of 26·5 from the similar rate in the previous year, the death rate was 8·30, a decrease of 2·93, and the ratio of constant inefficiency through sickness 83·20, a decrease of 4·98. Excluding the 1st Battalion Connaught Rangers, only a few weeks in the Command, and average strength under 100 men, there were ten battalions of infantry, among which the highest ratio of admission was 1915·7 per 1,000, in the 1st Battalion Loyal North Lancashire Regiment, stationed at Kamptee, the next was 1,861·2 in the 2nd Battalion Middlesex Regiment, at Mhow, and a short time at Kamptee, followed by 1,535·8 in the 2nd Battalion Royal Lancaster Regiment, quartered at Karachi; the lowest admission ratio was 949·5 in the 1st Battalion Royal Fusiliers, stationed at Poona, the next being 982·2 in the 2nd Battalion Durham Light Infantry, also at Poona for a short time, before leaving for Quetta, and 1,074·4 in the 2nd Battalion Royal Dublin Fusiliers, at Nasirabad. Mortality was highest in the 1st Battalion Loyal North Lancashire Regiment, the rate being 16·60 per 1,000, next in the 2nd Battalion Royal Dublin Fusiliers 13·74, and 10·59 in the 2nd Battalion Middlesex Regiment; the lowest ratio of mortality was 1·05 in the 1st Battalion Royal Fusiliers, the next above being 3·59 in the 2nd Battalion Gloucestershire Regiment, at Colaba, and 5·92 in the 2nd Battalion Durham Light Infantry. The highest ratio of constant inefficiency through sickness was 118·39 per 1,000, in the 1st Battalion Loyal North Lancashire Regiment, the next being 101·09 in the 1st Battalion Worcestershire Regiment, stationed at Poona, and 96·75 in the 2nd Battalion Lancashire Fusiliers, quartered at Ahmednagar; the lowest ratio was 44·11 in the 2nd Battalion Royal Dublin Fusiliers, the next above being 50·11 in the 2nd Battalion Leicestershire Regiment, stationed at Aden, and 75·47 in the 2nd Battalion Gloucestershire Regiment.

In the following table the influence of age on sickness, mortality, and invaliding among the troops in the Command is shown as far as possible.

Ages.	Average Strength.	Admissions.	Deaths.	Invaliding.	Ratios per 1,000 of Strength.		
					Admissions.	Deaths.	Invaliding.
Under 20 years - -	318	371	1	8	1166·7	3·14	25·16
From 20 to 24 years -	5,152	9,000	61	200	1746·9	11·84	38·82
„ 25 „ 29 „ -	4,693	6,972	42	123	1485·6	8·95	26·21
„ 30 „ 34 „ -	941	1,159	14	24	1231·7	14·88	25·50
„ 35 „ 39 „ -	414	263	2	10	635·3	4·83	24·15
40 years and upwards -	122	69	2	3	565·6	16·39	24·59
Not stated - - -	1,122	12	—	—	10·7	—	—
Total - -	12,762	17,846	122	368	1398·4	9·56	28·83

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It will be observed that the admission ratio of men under 20 years of age was fairly high, but the ratio increased considerably among men between 20 and 25 years of age, and was the highest ratio at any age; after that the admission ratio decreased through the succeeding quinquennia, gradually through the first two, and then with greater rapidity. In the previous year also the sequence of ratios was much the same, the highest being also among men between 20 and 25 years of age. Comparing the ratios with those in the preceding year, that for men under 20 years of age is considerably lower, and for men between 20 and 25 years slightly so; in the ratio among men between 25 and 30 years of age there is but little difference, but in the ratios for the succeeding quinquennial periods there is a marked increase. Mortality was low among men under 20 years of age, but increased among men between 20 and 25 years of age, falling among men between 25 and 30 years of age, and rising considerably among men in the next quinquennium, falling very low again after this to increase again among men over 40 years of age. There is very little similarity in sequence of ratios with that of the previous year, when, indeed, there was a high ratio among men under 20 years of age. Comparing the different ratios with the corresponding rates in 1889, it will be observed that a decrease has taken place in all of them.

In the next table will be found calculations to show, as far as possible, the influence of length of service in the country on the sickness and mortality among the troops during the year.

Years of Service.	Average Strength.	Admissions.	Deaths.	Invaliding.	Ratios per 1,000 of Strength.		
					Admissions.	Deaths.	Invaliding.
Under 1 year - -	1,495	2,726	23	48	1823·4	15·73	32·11
From 1 to 2 years -	1,468	2,542	17	71	1731·6	11·58	48·36
„ 2 „ 3 „ -	2,715	3,055	12	69	1125·2	4·42	25·41
„ 3 „ 4 „ -	1,829	2,710	19	57	1481·7	10·39	31·16
„ 4 „ 5 „ -	2,124	2,946	15	52	1387·0	7·06	24·48
„ 5 „ 10 „ -	1,723	3,511	25	64	2037·7	14·51	37·14
„ 10 years and upwards	286	354	6	7	1237·8	20·98	24·47
Not stated - -	1,122	2	—	—	1·8	—	—
Total - -	12,762	17,846	122	368	1398·4	9·56	38·83

The admission ratio among men under one year's service was high, fell somewhat among men in their second year of service, and further among men in their third year, rising among men in their fourth, and after a slight fall among men in their fifth year, increased among men up to ten years' service. In the previous year the admission ratio among men in their first year was also high, but there was a great decrease among men in their second year, after which the rate rose. Compared with corresponding ratios in the preceding year an increase is observed in the admission rates of men in their first and second years of service, a decrease in those among men in their third and fourth years of service, and an increase in those of men in their fifth year and between five and ten years' service. The mortality rate among men in their first year of service in the country was high, but only about half that in the preceding year; in the second year of service the death rate fell, but was in excess of that in 1889, and among men in their third year of service it was very low, less than half that in the previous year. Among men in their fourth year of service in the country the death rate increased, fell among men in their fifth year of service, but rose among men between five and ten years' service; these three ratios are all lower than the corresponding rates in the previous year. There is not much similarity in the sequence of these death ratios in the year under report as compared with that recorded in 1889.

In Abstract XXIX. will be found the admissions, deaths, invaliding, &c. in the different groups and orders of diseases, and in Abstract XXX. the relative prevalence of sickness and mortality in each of the administrative districts. *Bombay.*

GENERAL DISEASES.—*Diseases dependent on Morbid Poisons.*—Under the head of *eruptive fevers* are returned 11 admissions, of which 7 cases, one of which was fatal, were small-pox. In the preceding year there were 49 admissions for small-pox and 3 deaths. The admission rate, therefore, ·5 per 1,000, and the death rate, 0·8, are lower than in the previous year by 3·3 and ·15. Five of the cases occurred at Deolalee; with the exception of one, which proved fatal, they were mild in character; there was also one mild case at Colaba, and a severe one at Satara. The other cases of eruptive fevers were 3 of measles and 1 of chicken-pox.

Enteric Fever caused the admission of 131 cases and 24 deaths. The admission and mortality ratios, therefore, were 10·3 and 1·88 per 1,000, and the constantly sick rate was 1·48 per 1,000. Compared with corresponding ratios in the preceding year there was a decrease of 9·6 in the admission rate, one of 4·01 in the death rate, and one of 1·02 in the constantly sick rate, and compared with the corresponding ratios for the preceding five years a decline is observed in all these rates of 2·3, 2·17, and ·05 respectively. The rate of mortality to attack was 18·3 per cent. as compared with 29·6 in the preceding year, and 32·0 the average per-centage for the previous five years. In Abstract XXXII. will be found a table, taken from the report of the Principal Medical Officer, which shows the stations at which the admissions and deaths from enteric fever took place in each quarter of the year. The greatest seasonal prevalence was in the third quarter of the year, 58 cases and 9 deaths, next in the first quarter, 36 cases and 6 deaths, then the fourth quarter, with 23 cases and 5 deaths, and lastly the second quarter, 14 cases and 4 deaths. In the preceding year also the greatest prevalence was in the third quarter, but after this there was a difference, the order being second, first, and fourth quarters. The number of stations at which the disease appeared was 16, as compared with 17 in the previous year. In comparing the different stations at which the disease was observed one with another, and with reference to the number of cases occurring at each, the Principal Medical Officer notes the following variations:—At only three stations was there an increase, Poona, Deesa, and Kamptee; very considerable at the last-named station. There was marked decrease at Mhow both in number of cases and mortality, a considerable decrease at Nasirabad, and at Karachi, Aden, and Indore there was also a decrease. Cases occurred at Sitabuldi and Taragarh, where there had been none for some years, but the disease was contracted previous to the men's arrival from Kamptee and Nasirabad. The greatest number of cases at any station was 25 at Poona, among which were 2 deaths. The majority of the cases occurred during the rains. In no case could any insanitary condition be discovered in the barracks or their vicinity which would be likely to have caused the disease. At Mhow there were 24 cases and 6 deaths, most occurred during the rains, but there were cases throughout the year. Two thirds of the admissions came from the cavalry regiment. The cases were principally among young soldiers and recent arrivals, 12 of the men being 22 years of age and under, 6 from 22 to 24 years, and 6 over 24 years of age, while 20 of the men were under one year's service in the country, 2 in their second year, and 2 over two years' service. At Kamptee there were 22 cases and 3 deaths. Most of the cases, 16, occurred in the third quarter of the year; of these a kind of limited epidemic of 13 cases occurred between 29th July and 17th August. With regard to the age of the men attacked two thirds were under 23 years of age, and with regard to service in the country, 10 were under one year, 8 in their second year, and 4 over two years' service. At Karachi 16 cases occurred with 2 deaths. The cause of the disease could not be satisfactorily traced in any case, and there were no insanitary conditions to account for it. Half of the men attacked were 23 years of age or under, and half were under one year's service in the country. At Nasirabad there were 11 cases and 4 deaths. The cases were distributed throughout the year, and almost all came from different rooms or barracks. In no case could any origin for the

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disease be traced. At Ahmednagar 7 cases and 3 deaths occurred. Of these seven cases no less than four were young soldiers under six months' service in the country, and considering there were very few men joined from England during the year, this shows the marked predilection of the disease for recent arrivals. All sanitary precautions against the disease were rigidly observed, but it is pointed out that outside barracks there are many means and opportunities for men to contract disease. At Deesa there were 7 cases and one death, for none of which could any cause be ascertained. Most of the cases occurred in the first quarter of the year. At Colaba there were 3 cases, one of which was admitted on arrival at Bombay, this terminated fatally. At Deolalee there were 3 cases of enteric fever which recovered; they were all probably imported. At Ahmedabad also 3 cases occurred which did well; they were all young soldiers who had arrived in the country within the year. At Indore there were 2 severe cases, and at Aden there were 2 cases; all made good recoveries. At Sitabuldi also two cases occurred and did well; but it is stated that they were contracted at Kamptee. At Taragarh one fatal case occurred, believed to have been contracted at Nasirabad, and there was one fatal case at Neemuch for which no cause could be discovered. At Kirkee there was a single case, and there was also one among troops on the march; both of these did well.

Typhus Fever.—One case is returned; it occurred at Deolalee in a man of 27 years of age, and 5 years' service in India. The case was diagnosed by a medical officer who had had considerable experience of the disease. The man was in excellent health up to the time of the attack. The sanitary condition of the camp was good, as was also that of the neighbouring bazar, and in neither had there been any contagious or epidemic disease for more than a year, certainly nothing at all resembling typhus. The man had only been twice to the bazar, and on neither occasion had entered any house. The etiology of the case is obscure.

Simple continued fever caused 723 admissions, being in the ratio of 56·6 per 1,000 which is less than the corresponding rate in the previous year by 8·0, and than the similar average ratio for the preceding five years by 35·8. The total amount of constant inefficiency from this fever was equal to 2·27 per 1,000, below the last year's rate by ·21 and below the average rate by 1·21. The greatest prevalence of other continued fevers in any district was, as in the preceding year, in that of Bombay, the ratio of admission being 88·7 per 1,000, a decline of 39·8 from the corresponding rate in the previous year. The admission rates next in order were 74·0 in the Sind district and 68·9 in the Poona district, these are in excess of the previous year's rates by 3·9 and 8·9 respectively. The lowest admission rate was 5·2 in the Nagpur district, an increase of 4·2 on the last year's ratio, the next above being 12·4 in the Mhow district, a decrease of 17·6.

Cholera caused 7 admissions and 7 deaths, equal to ratios of ·5 and ·55 per 1,000, which are lower than the corresponding rates in the previous year by 1·5 and ·77, and below the average rates for the previous five years by 3·1 and 1·85 respectively. In Abstract XXXIII. is a table, taken from the report of the Principal Medical Officer, which shows that all the cases occurred in three stations of the Mhow district, four being in the second and three in the third quarter of the year. At Mhow there were 3 cases all fatal, they occurred in the month of April. At Nasirabad also there were 3 cases, all fatal; they occurred in April, August, and September; it is stated that they were sporadic cases and there was no cholera in the vicinity of the station at the times of attack. The remaining case occurred at Indore in July, and, like the rest, terminated fatally.

Dysentery was the cause of 252 admissions and 8 deaths, including one of an invalid after leaving the Command. The admission ratio, therefore, was 19·8 and the death rate ·62 per 1,000, very little below the corresponding rates in the previous year, the decrease being only ·7 and ·08 respectively. Compared with quinquennial average ratios the decrease in admission rate was 1·7, and that in mortality rate ·14. In Abstract XXXIV. there is a table, taken from the report of the Principal Medical Officer, in which will be found the prevalence of dysentery in each of the administrative districts of the Command, and in Abstract XXXV. there is a table which shows the prevalence of, and mortality from, this disease in each quarter of the year. The greatest pre-

valence of dysentery in any district was, as also in the previous year, in the Sind district, where the ratio was 37·0 per 1,000, the next rate was 28·3 in the Bombay district, then 21·7 in the Mhow district, 10·7 in the Poona district, and 1·0 in the Nagpur district. Compared with corresponding ratios in the previous year an increase of 4·9 is observed in the ratio in the Bombay district, 4·2 in that of Sind, and 1·0 in that of Mhow. In the Poona district there was a decrease of 4·8 and in the Nagpur district one of 9·7. Mortality was highest in the Sind district, 1·48 per 1,000, the next rate, ·69, being in the Mhow district, and ·51 in the Poona district, and then ·31 in the Bombay district. Compared with the last year's return there is an increase of mortality rate in the districts of Sind and Poona, but a decrease in the remaining districts. With regard to seasonal prevalence it will be observed that the highest ratio was 7·4 per 1,000 in the third quarter, followed by 5·0 in the fourth, 4·4 in the first, and 3·1 in the second quarter. In the previous year the ratios were in the same order. Mortality was greatest in the third quarter, ·24 per 1,000, next in the first quarter, ·15, then in the second, ·08, and least in the fourth quarter, ·07. In the previous year mortality was highest in the third quarter, but lowest in the first. *Bombay.*

Influenza was epidemic in the early part of the year, commencing in March; the disease was very prevalent among the native population. The military stations attacked were nine in number. The total number of admissions was 247, equal to a ratio of 19·4 per 1,000 of strength; this rate does not, however, fully show the extent of the disease, as there were at most of the stations attacked many cases of a minor character which passed off without necessitating admission into hospital. Mhow showed the greatest number of admissions, 94, next Hyderabad 64, Kamptee 54, Mount Abu 11, Ahmedabad 7, Satara 6, Colaba and Purandhur 5 each, and Neemuch 1. The disease was of the ordinary character met with in this epidemic elsewhere; most of the cases were mild, but some were severe and complicated with pneumonia. The prostration which followed the disease was generally marked, and convalescence was often protracted.

Malarial fevers furnished 3,729 admissions and 5 deaths, being in the ratios of 292·2 and ·39 per 1,000, which compared with corresponding rates in the previous year have declined by 45·1 and ·23, and compared with average ratios for the previous five years by 60·3 and ·19 respectively. The ratio of constant inefficiency from these fevers was equal to 7·84 per 1,000, which is lower than that for the preceding year by 2·54 and below the quinquennial average rate by 3·12. Of the total number of admissions 61 were cases of remittent fever, 77 malarial cachexia, and the remainder ague. Four of the deaths are recorded as due to remittent fever and one to ague. With regard to the relative prevalence of these fevers in the different districts it is observed that the highest admission ratio was 593·3 per 1,000 in the Nagpur district, and was higher than in the preceding year by 120·7. At the stations, Kamptee and Sitabuldi, ague was extremely prevalent, especially in the months of August, September, and October. The admissions for ague at Kamptee were 465 in number, but there were in addition many cases which were not admitted into hospital. In the Mhow district the admission rate was also very high, 474·1 per 1,000, though not so much so as in the preceding year, as a decline of 112·6 is observed. Ague was very prevalent in Mhow from August until the middle of November, but in the other stations in the district a decrease of prevalence of this disease is noted. In the Bombay district the admission ratio was 311·1 per 1,000, an increase of 116·3. In all the stations in the district except Ahmedabad increased prevalence of ague is recorded, but the disease was mostly mild in type. In the Sind district the admission rate was 212·4 per 1,000, a decrease of 180·3 from the last year's rate. At Karachi, though there was an unusual rainfall and an increase of ague would have been expected, there was on the contrary a diminution. At Hyderabad at the end of the year there was a good deal of ague of a severe type. In the Poona district the admission rate for malarial fevers was 112·7 per 1,000, and shows a decline of 90·2. At Poona there was a great falling off in the number of cases of malarial fever admitted, and at the other stations in the district there was also a decrease. Mortality was highest in the Nagpur district, the ratio being 2·07 per 1,000, the next ratios were ·62 and ·25 in the Bombay and Poona districts respectively. In the Sind and Mhow districts there was no mortality.

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Septic Diseases.—15 admissions and 2 deaths are returned; the admission rate, 1·2 per 1,000, is the same as in 1889, but the death rate, ·16, is higher by ·08. All the admissions and deaths were due to erysipelas.

Venereal Diseases.—2,782 admissions are returned under the head of *primary syphilis*, being in the ratio of 218·0 per 1,000, which is higher than the corresponding rate in the previous year by 41·2 and above the average rate for the preceding four years by 108·1. The ratio constantly sick from this disease, 17·41 per 1,000, is above that in the preceding year by 3·58 and above the average rate by 8·95. If the sickness from simple venereal ulcer be added, admissions 332 and constantly sick 18·53, the ratio of admission for primary venereal sores is found to have been 244·0 and the rate of constantly sick 18·86 per 1,000. Compared with the corresponding ratios in the previous year an increase has occurred in both these ratios, of 18·2 and 1·54 respectively, and compared with average ratios of the preceding five years an increase of 104·7 is noticed in the admission rate, and one of 8·74 in the constantly sick rate. *Secondary syphilis* caused 766 admissions and 1 death, and 65·45 men were constantly sick from this affection. The admission ratio was 60·0 per 1,000, an increase of 17·1 over the last year's rate, and one of 26·0 over the quinquennial average rate. The ratio of constant inefficiency was 5·13 per 1,000, greater than in the previous year by 1·38, and than the average rate by 2·09. *Gonorrhœa* was the cause of 2,254 admissions, equal to a ratio of 176·6 per 1,000, which is rather below the rate in 1889 by 3·2, but above the average rate of five years by 19·1. The constantly sick rate, 12·48 per 1,000, was fractionally below the previous year's rate, but above the average rate by 2·06. Including all forms of venereal disease, the total admission ratio was equal to 480·6 per 1,000, and the total ratio of constant inefficiency from these diseases to 36·47 per 1,000. The admission ratio is above the corresponding rate in the previous year by 32·1, and above the quinquennial average rate by as much as 148·8. The constantly sick rate is higher than in 1889 by 2·75 and above the average rate by 12·89.

The prevalence of venereal diseases, except simple venereal ulcer, in the different districts will be found in Abstract XXX. For primary syphilis the highest admission ratio in any district was 429·4 in the Nagpur district, followed by 328·2 in that of Poona, 199·8 in that of Sind, 126·9 in that of Mhow, and 115·8 in that of Bombay. In the previous year the lowest rate was also in the Bombay district, but the highest was in the Poona district. Secondary syphilis also gave the highest admission ratio, 88·2 per 1,000, in the Nagpur district, after which came 77·8 in the Poona district, 61·4 in the Sind district, 58·8 in the Bombay district, and 33·4 in the Mhow district. In 1889 the Poona district gave the highest admission ratio, but the lowest was also in the Mhow district. The highest admission ratio for gonorrhœa was 203·3 per 1,000 in the Nagpur district, followed by 198·2 in the Poona district, 180·5 in that of Bombay, 164·1 in that of Mhow, and 136·9 in that of Sind. In the previous year the lowest ratio was also in Sind, but the highest ratio was in the Poona district. The highest admission ratio for syphilis and gonorrhœa in any district was as much as 720·9 per 1,000 in the Nagpur district, an increase of 340·1 on the corresponding rate in the previous year. The ratio next in order was 604·2 per 1,000 in the Poona district, higher than in the preceding year, but only by 9·9. This was followed by 398·2 per 1,000 in the Sind district, an increase of 126·7, 355·1 in the Bombay district, an increase of 5·5, and 324·4 in the Mhow district, an increase of 51·9. At the majority of the stations in the Command the admission rate shows an increase, particularly at Kamptee, Neemuch, and Hyderabad, but in others it has declined, as compared with the previous year, notably at Ahmedabad, Deesa, and Satara.

Parasitic Diseases.—34 admissions are recorded, the ratio being 2·7 per 1,000, as compared with 5·0 in the previous year. 31 of the admissions were for some form of tænia, and 3 for filaria medinensis.

Scurvy.—6 admissions are shown, against 14 in the previous year. Under the head of *alcoholism* 74 admissions and 1 death are recorded; the admission ratio, 5·8 per 1,000, has decreased by 1·9. As in the previous year, the greatest prevalence of alcoholism was in the Sind district, out of the total number of cases treated 4 were cases of delirium tremens.

Debility, &c.—The admissions were 316 in number, equal to a ratio of 24·8 per 1,000, a decline of 5·3 from the corresponding rate in the previous year.

The highest admission rate in any district was 34·8 per 1,000, in that of Bombay, and the lowest, 9·3, in that of Nagpur; in the Sind, Poona, and Mhow districts the rates were 33·3, 24·7, and 17·2 respectively. Compared with last year's return a decrease is observed in all these rates except that of Poona. *Bombay.*

Rheumatism caused 339 admissions and 1 death; the admission ratio, 26·6 per 1,000, is higher than that in the previous year by 4·7, and rather above the average rate. The highest admission ratio in any district was 33·4 per 1,000, in that of Mhow, an increase of 12·4 on the last year's rate; next, 31·4 in the Bombay district, an increase of 6·1, followed by 22·9 in the Sind district, an increase of 3·2, then 21·4 in the Poona district, an increase of 2·0, and lastly 19·7 in the Nagpur district, a decline of 9·6. Among the total number of admissions were 13 for rheumatic fever, which also was the cause of the death.

Tubercular Diseases.—52 admissions and 15 deaths, including 4 of invalids who had left the Command, are recorded. The admission rate, therefore, was 4·1 and the death rate 1·17 per 1,000, as compared with 3·1 and ·54 per 1,000 in the previous year, and with 3·7 and ·81 respectively, the average ratios for the previous four years. The greatest prevalence of tubercular disease in any district was in that of Bombay, the rate being 6·5 per 1,000; the next rate was 5·2 in the Mhow district, 3·0 in the Sind district, 2·5 in the Poona district, and 2·1 in the Nagpur district. Compared with last year's return an increase is observed in all these ratios except that of Nagpur, in which there is a decrease. Mortality in the country was highest in the Nagpur district, 2·07 per 1,000, next in the Bombay district, 1·54, and then in the Mhow district, 1·38; in the Sind and Poona districts there was no mortality. All but one of the admissions and all the deaths, including those of invalids, were due to tubercular disease of the lungs.

Other diseases of this group gave 139 admissions and 2 deaths, including one of an invalid. The admission rate, 10·9 per 1,000, is higher than that in 1889 by 2·1. Of the total number of admissions 91 were cases of non-malignew growth, chiefly papilloma, and the remainder comprised 41 of anæmia, one of which proved fatal, 4 of scrofula, 2 of diabetes mellitus, and one case of malignant osteoma. The death of an invalid was due to diabetes mellitus.

Local Diseases.—*Diseases of the Nervous System* caused 182 admissions and 4 deaths, being in the ratios of 14·3 and ·31 per 1,000 respectively. The admission ratio is higher than that in the previous year by 2·0, but rather below the average rate. Of the admissions 39 were for mental disease, and were in the ratio of 3·1 per 1,000, as compared with 2·5 in the preceding year. The greatest prevalence of nervous diseases was in the Bombay district, and the least in the Poona district, which was also the case in the previous year. The admission ratio in the Bombay district, 24·6 per 1,000, was higher than the corresponding rate in the previous year by 7·4; the next ratio was 14·8 in the Sind district, an increase of ·9, followed by 11·4 in both the Mhow and Nagpur districts, an increase of 1·2 and ·7 respectively, and the lowest ratio was 8·1 in the Poona district, a decrease of 1·4. The principal causes of admission among nervous diseases were neuralgia 74 cases, epilepsy 21, paralysis 13, and vertigo 14 cases. Of the admissions for mental disease 19 were cases of melancholia and 12 of dementia. The deaths were from congestion of brain, inflammation of membranes of brain and spinal cord, abscess of brain, and apoplexy one case respectively.

Diseases of the Eye were the cause of 161 admissions, equal to a ratio of 12·6 per 1,000, fractionally below the corresponding rate in the previous year, and below the average rate of the preceding five years. The greatest prevalence of ophthalmic disease was in the Bombay district, the ratio being 15·1 per 1,000; the next rate was 14·7 in the Poona district, followed by 12·7 in the Mhow district, 6·7 in the Sind district, and 5·2 in the Nagpur district. In the preceding year the highest rate was in the Sind district, and the lowest in the Mhow district. Compared with the last return a decrease is observed in all these ratios except that of Mhow, in which there was an increase of 3·7; in the Sind district the decrease was as much as 10·8, and in the Nagpur district 6·5, but in the other two districts it was only fractional. The most frequent cause of admission was conjunctivitis, 117 cases being returned.

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Among the remaining admissions were 10 of iritis, 5 of keratitis, and 5 of ulcer of the cornea.

Diseases of other Organs of Special Senses.—192 admissions are returned, being in the ratio of 15·0 per 1,000, which is higher than that in the previous year by 1·0 and fractionally above the average rate. As in preceding years, the admission ratio for these affections in the Sind district was far higher than in any other district, and reached 31·8 per 1,000. The ratio next in order was just half the foregoing and was in the Mhow district, followed by 13·5 in the Bombay district, 12·9 in the Poona district, and 7·3 in the Nagpur district. Of the total number of admissions 11 were for affections of the nose, and the remainder for aural diseases, among which inflammation of the external meatus alone caused 126 admissions.

Diseases of the Circulatory System caused 130 admissions and 2 deaths. The admission rate, 10·2 per 1,000, is lower than the corresponding rate in the previous year by 3·0 and below the average rate. The greatest prevalence of these diseases was in the Sind district, the ratio being 20·0 per 1,000, the next was 10·2 in the Bombay district, then 10·0 in the Mhow district, 9·1 in the Poona district, and 4·1 in the Nagpur district. In the previous year the highest ratio was in the Bombay district and the lowest in the Mhow district. Compared with corresponding ratios in the preceding year there is a decline of 11·2 in the rate for the Bombay district, one of 5·2 in that for the Poona district, one of 1·8 in that for Nagpur, and fractionally in that for Sind, but in the Mhow district there is an increase of 6·0. The principal causes of admission were palpitation 90 cases, valvular disease 20, and varix 13. The deaths were one from pericarditis and one from thrombosis respectively.

Diseases of the Respiratory System.—434 admissions are returned and 13 deaths, including 2 of invalids who had left the Command. The admission rate was, therefore, 34·0 and the death rate 1·02 per 1,000; the former shows an increase of 10·9 as compared with the rate in the previous year, and is also above the average rate; the death rate is in excess of that in the previous year by ·17. The highest admission ratio in any district was 56·2 per 1,000 in the Sind district, followed by 38·5 in the Bombay district, 32·0 in the Poona district, 31·7 in the Mhow district, and 8·3 in the Nagpur district. In the previous year the greatest prevalence was also in the Sind district, but the ratio was only 31·4; the lowest rate was also in the Nagpur district, being in excess of that in the year under report by 3·4, in the remaining districts an increase is observed, being 15·8 in the Bombay district, 12·6 in the Poona district, and 2·6 in the Mhow district. Mortality was highest in the Mhow district, 1·72 per 1,000, next in the Bombay district, 1·23 per 1,000, followed by ·74 in Sind, ·25 in the Poona district, and *nil* in Nagpur. Of the admissions as many as 341 were for bronchial affections, and among the remainder were 36 for pneumonia, and 23 for pleurisy. The deaths in the country were 6 from pneumonia, 2 from bronchitis, 2 from empyema, and 1 from pleurisy. The deaths of invalids were one from pneumonia and one from pneumonic phthisis.

Diseases of the Digestive System caused 1,452 admissions and 18 deaths, including two of invalids. The admission ratio was 113·8 and the mortality rate 1·41 per 1,000, which are below the corresponding rates in the previous year by 3·2 and ·37 respectively, and are also below the similar average rates for the preceding five years. The Sind district, as usual, showed the greatest prevalence of these diseases, the ratio being 173·9 per 1,000; this was followed by 132·7 in the Mhow district, 123·2 in the Bombay district, 89·0 in the Poona district, and 59·1 in the Nagpur district. Compared with corresponding ratios in the previous year a decrease of 34·6 has occurred in the ratio for the Nagpur district, one of 15·9 in the Sind district, and one of 7·6 in the Bombay district; in the Mhow district there was an increase of 9·9, and in the Poona district one of 3·7. The highest mortality ratio was 2·46 per 1,000 in the Bombay district, the next, 2·22, in the Sind district, ·76 in the Poona district, ·69 in the Mhow district, and *nil* in the Nagpur district. The death rates, with the exception of that in Sind, have all declined as compared with the return for the previous year. The principal causes of admission were affections of the mouth and throat 368 cases, dyspepsia 203, diarrhœa 391, and hepatitic diseases 311, including 25 cases of abscess of the

liver. Of the deaths in the Command 9 were from hepatic abscess, 3 from hepatitis, and one is returned from gastritis, hernia, diarrhœa, and colic respectively. The deaths of invalids were one from diarrhœa and one from hepatic abscess. In Abstract XXXIV. is a table, taken from the report of the Principal Medical Officer, showing the prevalence of diarrhœa and hepatitis and abscess of the liver in each district in the Command, and in Abstract XXXV. the prevalence of, and mortality from, these diseases in each quarter of the year. The admission rate for diarrhœa was 30·6, and the death rate dependent on one death, ·08 per 1,000. In the previous year the admission ratio was 32·2. As in the two preceding years the greatest prevalence of diarrhœa was in the Sind district, the ratio being 51·8 per 1,000; the next was 34·8 in the Mhow district, then 27·4 in the Bombay district, 25·2 in the Poona district, and 19·7 in the Nagpur district. Compared with corresponding ratios in the preceding year there was a slight increase in the rate in the Poona district, but in the remaining districts a decrease is observed. The greatest prevalence of diarrhœa at any period of the year was, as is usually the case, in the third quarter. The ratio, 12·6 per 1,000, is a good deal higher than in the other quarters of the year. The next rate was in the first quarter, then in the fourth, and lastly in the second. Hepatitis and abscess of the liver gave a ratio of admission equal to 13·7, and a ratio of mortality equal to ·94 per 1,000, as compared with 13·3 and 1·08 in the preceding year. The highest ratio of admission in any district was 19·6 per 1,000 in the Mhow district, the next, 19·4, being in the Bombay district, followed by 8·9 in the Poona district, 8·1 in the Sind district, and 7·3 in the Nagpur district. In the previous year the highest rate was in the Bombay district, and the lowest, as in the year under report, in the Nagpur district. The rates in the Mhow and Nagpur districts were increased by 3·8 and 2·4, and those in the Bombay, Sind, and Poona districts decreased by ·4, 4·3, and ·4 respectively. Mortality was, as in the previous year, highest in the Bombay district, the rate being 2·46 per 1,000, next, 1·48, in the Sind district, ·34 in the Mhow district, ·25 in the Poona district, and *nil* in Nagpur. With regard to seasonal prevalence the highest ratio was in the fourth quarter, 4·3 per 1,000, the next, 3·8, in the third, followed by 2·9 in the first, and 2·7 in the second quarter. In the preceding year the highest ratio was in the third quarter. Mortality was greatest in the first quarter, the rate being ·68 per 1,000, and then ·22 in the fourth; in the second and third quarters there was no mortality. *Bombay.*

Diseases of the Lymphatic and Glandular System.—549 admissions are returned, being in the ratio of 43·0 per 1,000, which is higher than the rate in the preceding year by 7·8, and a good deal above the average rate. As in 1889, the greatest prevalence of these affections was in the Nagpur district, the rate being 66·4 per 1,000; next came 49·9 in the Poona district, 48·7 in the Bombay district, 42·9 in Sind, and 23·1 in the Mhow district. Compared with the return for the previous year, a decrease of 6·9 is observed in the ratio for the Mhow district; but in all the other districts an increase has occurred, being 26·1 in Sind, 11·5 in the Poona district, 11·1 in the Bombay district, and 9·8 in Nagpur. The chief causes of admission were, as usual, inflammation and suppuration of the inguinal glands. There were 26 admissions for diseases of the spleen.

Diseases of the Urinary System caused 19 admissions and 1 death; the admission ratio, 1·5 per 1,000, is higher by ·2 than in the previous year, but is below the average rate. Cystitis and incontinence of urine caused most admissions, and among 3 cases of Bright's disease one terminated fatally.

Diseases of the Generative System caused 545 admissions, equal to a ratio of 42·7 per 1,000, which is lower than the last year's rate by 25·6, and below the average rate. The highest ratio of prevalence in any district was 65·3 per 1,000 in the Bombay district, next 61·0 in the Mhow district, 43·7 in Sind, 21·8 in Nagpur, and 14·0 in the Poona district. Of the total number of admissions 332, or more than three-fifths, were cases of simple venereal ulcer, and among the remainder were 123 cases of orchitis and 29 of urethral stricture.

Diseases of the Organs of Locomotion.—87 admissions occurred, being in the ratio of 6·8 per 1,000, which differs only fractionally from the rate in the preceding year, and from the average rate. Synovitis was the chief cause of

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admission, 41 cases being returned. Among the remaining cases treated were 9 of periostitis, 6 of necrosis, and 5 of bursitis.

Diseases of the Connective Tissue were the cause of 235 admissions, or 18·4 per 1,000, as compared with 17·6 in the previous year.

Diseases of the Skin.—716 admissions are returned, being in the ratio of 56·1 per 1,000, which is lower than the corresponding rate in the preceding year by 11·2 and below the average rate. The highest ratio of prevalence of cutaneous affections was 70·2 per 1,000 in the district of Bombay, followed by 67·3 in that of Sind, 63·8 in that of Mhow, 58·1 in Nagpur, and 39·2 in the Poona district. In the previous year the highest ratio, 113·1, was in Sind. The most frequent causes of admission were ulcers, boils, whitlows, eczema, itch, and ringworm.

Poisons.—Nine admissions and 2 deaths are returned as compared with 5 admissions and no death in the previous year. The cases were one from poisoning by alcohol, fatal; one from poisoning by cyanide of potassium, also fatal, a case of suicide; and one from poisoning by scorpion, wasps, ray fish, dead animal matter, and morbid secretions respectively; all these recovered.

Injuries.—The admission ratio was 96·9 per 1,000, differing only fractionally from the corresponding rate in the previous year, and below the average rate. General injuries caused 24 admissions and 19 deaths. The admissions to the number of 21 resulted in some form from exposure to heat, and of the remaining three, two were cases of multiple injury, and one a case of burn. The deaths were 10 from heat apoplexy, 8 from drowning, accidental in seven cases, the eighth being found drowned, and 1 from multiple injury. Local injuries caused 1,214 admissions and 6 deaths. Contusions, wounds, and sprains account for the greater part of the admissions, and among the remainder were 70 for fracture, 26 for dislocation, 6 for gunshot wound, and 5 for concussion of the brain. Of the deaths three resulted from gunshot wound and one from cut throat, all cases of suicide while in a condition of temporary insanity; the other two deaths were accidental, one from fracture of skull from diving into too shallow water, and the other from fracture of the ribs and wound of the lungs from a fall into a nullah.

Among the surgical operations performed during the year was one of excision of the head and part of the shaft of the humerus after gunshot injury, and eleven for removal of necrosed bone, all with successful result. A case of laparotomy, on account of intestinal obstruction, terminated fatally, and out of twelve cases of aspiration or opening liver abscess, death resulted in one instance. Eight cases of paracentesis of the pleura, on account of empyema, were performed, but three subsequently died. In addition to the foregoing there were numerous other operations undertaken, and in all the result was satisfactory.

Invaliding.—The number of men invalided home during the year was 368, being in the ratio of 28·83 per 1,000, which is higher than the corresponding ratio in the preceding year by 2·02, but below the average ratio for the previous ten years by 5·02. In Abstract XLIII. will be found the invaliding ratios for the different arms of the service and also for individual corps. In the cavalry regiment, the 18th Hussars, stationed at Mhow, the invaliding rate was 28·00 per 1,000, an increase of 10·59 on the cavalry invaliding rate on the previous year. In the artillery the ratio of invaliding was 36·88 per 1,000, an increase of 3·44. Of separate batteries the highest invaliding ratio occurred in No. 27 Field Battery, at Ahmedabad, and was equal to 110·24 per 1,000; the next ratio was 92·20 in No. 53 Field Battery, at Kirkee, followed by 68·96 in No. 17 Field Battery, at Ahmednagar; the lowest ratio was, excepting *nil* in the 18th Battery, Southern Division, at Karachi, 6·99 in No. 48 Field Battery, at Neemuch, and next above, 7·57 in No. 72 Field Battery, at Deesa. In the infantry the invaliding ratio was 27·28 per 1,000, an increase of 3·30 on the last year's rate. The highest invaliding rate in any regiment was 94·67 per 1,000 in the 2nd Battalion Durham Light Infantry, at Poona, followed by 35·29 in the 2nd Battalion Middlesex Regiment, at Mhow, and 32·64 in the 2nd Battalion Lancashire Fusiliers, at Ahmednagar; the lowest invaliding rate was 12·00 in the 1st Battalion Worcestershire Regiment, at Poona, the next above being 14·89 in the 2nd Battalion Leicestershire Regiment, at Aden, and 19·98 in the 1st Battalion Royal Fusiliers, at Poona. On a previous page will be found

tables showing the effect of age and length of service in the country on invaliding. With regard to age, it will be seen that the invaliding rate among men under 20 years of age was 25·16 per 1,000, rising to 38·82 among men between 20 and 25 years of age, falling in the next quinquennium to 26·21, after which it further gradually decreased. In the previous year the sequence of ratios was somewhat similar, but, generally speaking, the ratios were lower. With regard to service in the country, the invaliding ratio among men in their first year was high, 32·11 per 1,000; it increased greatly among men in their second year of service, falling among men in their third year, after which it alternately rose and fell. There was no similarity in the sequence of ratios in the previous year, and the highest ratio was among men in their third year of service in the country, while in the year under report it was in the second. *Bombay.*

The principal causes of invaliding were dysentery, 6 cases, or ·47 per 1,000, a decline of ·15 from the last year's rate; malarial fevers 18 cases, or 1·41 per 1,000, a decrease of ·37; secondary syphilis, 45 cases, or 3·53 per 1,000, an increase of 1·59; debility, 64 cases, or 5·01 per 1,000, an increase of ·44; rheumatism, 12 cases, or ·94 per 1,000, an increase of ·17; tubercular diseases, 18 cases, or 1·41 per 1,000, a decline of ·37; diseases of the nervous system, 37 cases, or 2·90 per 1,000, an increase of ·73 (of these 19 cases, or 1·49 per 1,000, were mental diseases); diseases of the circulatory system, 32 cases, or 2·51 per 1,000, a decrease of ·67; diseases of the respiratory system, 12 cases, or ·94 per 1,000, an increase of ·09; diseases of the digestive system, 32 cases, or 2·51 per 1,000, a decrease of ·28; diseases of the organs of locomotion, 17 cases, or 1·33 per 1,000, and injuries, 16 cases, or 1·25 per 1,000.

The number of men finally discharged as medically unfit for further service was 236, equal to a ratio of 18·49 per 1,000, which is higher than the corresponding rate in the previous year by 4·39, and above the decennial average rate by 4·76.

The principal disabilities necessitating discharge were secondary syphilis, 21 cases, or 1·64 per 1,000, an increase of ·79 on the corresponding rate in the preceding year; debility, 43 cases, or 3·37 per 1,000, an increase of 1·82; tubercular diseases, 11 cases, or ·86 per 1,000, a decrease of ·77; nervous diseases, 31 cases, or 2·42 per 1,000, a decrease of ·37 (of these 15, or 1·17 per 1,000, were cases of mental disease); diseases of the eye, 10 cases, or ·78 per 1,000; diseases of the ear, 17 cases, or 1·33 per 1,000; diseases of the circulatory system, 35 cases, or 2·74 per 1,000, an increase of 1·04; diseases of the digestive system, 14 cases, or 1·10 per 1,000; diseases of the organs of locomotion, 13 cases, or 1·02 per 1,000, an increase of ·17; and injuries, 16 cases, or 1·25 per 1,000.

Officers.—The average strength of officers was 413, and there were 374 attacks of illness, 7 deaths, and 39 officers were invalided home. The ratio of prevalence of sickness was, therefore, 905·5, that of death 16·95, and that of invaliding 94·43 per 1,000. Compared with corresponding ratios in the preceding year an increase is observed in all, being 162·6 in the sick rate, 4·10 in the death rate, and 17·31 in the invaliding rate. Among the cases treated were 16 of influenza, 36 of simple continued fever, 6 of enteric fever, 89 of malarial fevers, including 15 of remittent fever, diseases of the digestive system 81 cases, including 17 of liver disease, and injuries 43 cases. The deaths were one from diphtheria, enteric fever, inflammation of cerebral membranes, spinal meningitis, intestinal obstructions, diarrhœa, and heat apoplexy respectively. The causes of invaliding were debility 9 cases, malarial fever 7, enteric fever 4, dysentery, dyspepsia, diarrhœa, and cystitis, 2 cases each, and constitutional syphilis, rheumatism, vertigo, enteritis, hernia, hæmorrhoids, hepatic abscess, hepatitis, calculus, eczema, and contusion one case respectively.

Women.—The average strength was 636, and there were 437 admissions into hospital, and 14 deaths, being in the ratios of 687·1 and 22·01 respectively, which are lower than the corresponding ratios in the previous year, the former by 87·4, and the latter by 1·08. Among the admissions were 3 cases of small-pox, as compared with 8 in the previous year; all recovered. There were 5 admissions for influenza, and 20 for continued fevers, including 5 cases of enteric fever, of which 2 proved fatal. Dysentery caused 9 admissions, and malarial fevers 73, of the latter 5 were cases of remittent fever, one of which died. The admissions for debility were 157, as compared with 165 in the

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previous year. There were 3 admissions for tubercular disease of the lungs of which two terminated fatally. Nervous diseases gave 8 admissions, including a case of mania. Ophthalmic and aural affections were infrequent, as also diseases of the circulatory system. Diseases of the respiratory system caused 24 admissions, 19 being for bronchial affections; there were also 2 cases of pneumonia, one fatal, 1 of pneumonic phthisis, fatal, 1 of pleurisy, and 1 of asthma. Diseases of the digestive system gave 45 admissions, dyspepsia and diarrhœa being the chief causes; from the last-named there was one death, and there was also a fatal case returned as vomiting, and one death from peritonitis. 41 admissions are shown for diseases of the generative system, the diseases causing them being numerous. One death occurred from uterine hæmorrhage. The admissions in the remaining orders of disease were few in number. Under the head of injuries one death from heat apoplexy is returned, and one from gunshot wound, suicidal, which occurred at Colaba, a woman having shot herself with her husband's rifle while in a state of temporary insanity.

Children.—The average strength was 1,148, the admissions to hospital 505, and the deaths 55. The admission rate, therefore, was 439·9 per 1,000, a decline of 32·4 from the corresponding rate in the previous year; and the death rate was 47·91, a decline of 14·76. Eruptive fevers caused 43 admissions, including 39 for measles, 3 for chicken-pox, and 1 for scarlet fever. There were 10 cases of whooping-cough, one of which was fatal. 37 cases of continued fever occurred, comprising 34 of the simple form, with 2 deaths, 2 of enteric fever, and 1 of cerebro-spinal fever. Dysentery caused 11 admissions, and there was one fatal case of cholera. Under the head of malarial fevers, 82 cases of ague are returned, and 12 of remittent fever, with one death. Constitutional syphilis is given as the cause of a fatal case. The admissions for debility were 72 in number, and the deaths 10; there were also 4 deaths from immaturity at birth. There were 3 fatal cases of tubercular disease, and 6 admissions for anæmia. Diseases of the nervous system show 12 admissions and 7 deaths from convulsions, one case of myelitis, and one of meningitis, fatal. Ophthalmic affections caused 28 admissions, principally cases of conjunctivitis. Diseases of the respiratory system gave 41 admissions and 3 deaths from bronchitis, 3 admissions and 1 death from croup, 2 and 1 death from pneumonia, and one fatal from laryngitis. 101 admissions are recorded for diseases of the digestive system, including 27 for teething, with 8 deaths, 58 for diarrhœa, with 5 deaths, and 5 for hepatic disease, with one death from jaundice. The admissions in the remaining orders of diseases were not numerous, but there were 2 deaths from heat apoplexy, one from rosecla, and one from fracture.

Sanitary Conditions.—The following points bearing on the health of the troops, and the sanitary condition of the districts and stations, are noticed in the report of the Principal Medical Officer, Surgeon-General W. M. Webb, or those of the medical officers in charge.

Bombay, Deesa, and Aden District.—At Colaba the health of the troops belonging to the station was good, and almost all the serious cases were transferred from corps passing through. The sanitary condition of barracks and hospitals was generally well attended to, but the surroundings are very unsatisfactory. The foreshore outside of the authority of the military is foul, and the neighbouring bazar very dirty and overcrowded. The great difficulty in the way of perfect sanitation is the want of space for providing all necessary buildings, and the absence of any authority in the hands of the military over that part of the station occupied by civilians, as the place is not a cantonment. There are also great complaints about the insufficiency of the water supply. At Deolalee the general health of the troops and the sanitary condition of the camp were satisfactory during the year. Funds have been sanctioned for the construction of another block of quarters for hospital servants, which is much required. Sanction has also been given for the erection of a hospital laundry which remedies a long felt want. The cell accommodation was quite inadequate; steps were taken to remedy this, and fifteen new cells were under construction at the close of the year. In the trooping season the accommodation in barracks was quite inadequate, and the use of tents pitched on raised platforms was necessary. It is necessary also to supplement the accommodation in the hospital by tents during the trooping season. At Aden there was

an increase of sickness due to the extensive prevalence of ague, which, however, was mild in character and probably resulted from the almost unprecedented rainfall. The sanitary condition of the barracks was generally satisfactory, and also that of the hospitals, but at the Point the hospital accommodation was insufficient, and the ward for female cases was, therefore, re-appropriated as a male ward. The married quarters are sufficient, but those at the Point, though well situated on an eminence, are built the wrong way for the prevailing breezes during the hot season, and the use of punkahs is necessary, though they are not used in the barracks on this position. With regard to the water supply it is stated that the pipes at the Point have been extended so as to carry the water up to the barracks on the hill, which will reduce the cost of carriage as well as lessen the chance of contamination when the arrangement is quite complete. At Ahmedabad the health of the troops was better than in the preceding year, which the medical officer attributes to the favourable fall of rain spread over a considerable period during the monsoon. The sanitary condition of the barracks, hospital, and lines was satisfactory, except that at a certain time before the monsoon when the wells were exceptionally low, the water supply was said to be indifferent, but after the monsoon it was found to be again potable. At Deesa the health of the troops was good. The barracks were in good sanitary condition, and gave sufficient accommodation; the outbuildings were also in a satisfactory state, except that it would be an improvement if the quarters for the hospital attendants were enlarged. At Mount Abu the health of the troops was satisfactory, though not so good as in the previous year. Ague was very prevalent in the last three months of the year; it is advisable that as few men as possible should remain on the hill during these months. The sanitary conditions of the barracks and hospital are reported to have been entirely satisfactory during the year. At Butcher Island, Bombay, is a small detachment of engineers; the general health is reported as good, and the sanitary condition very satisfactory. *Bombay*

Sind District.—At Karachi the health of the troops was good, and compared favourably with that in the previous year. The barracks were generally satisfactory, but certain improvements were carried out. In the Napier Lines No. 3 Block was re-roofed with Mangalore tiles, the old roof having been removed, and in No. 9 Block a partition wall was erected in order to make a prayer room. At Somerset barracks the drainage on the north side was much improved. In the hospital also certain alterations were carried out, ablution and bath rooms furnished, and an officer's room provided at each end of main building. Some married quarters were converted into quarters for the assistant apothecaries. The married quarters in barracks were kept clean, and the accommodation afforded by them is sufficient. Ventilation both in barracks and hospital is said to have been sufficient, and the drainage as effective as it can well be considering the situation of the station, the highest part of which is only 20 feet above the sea level. At Hyderabad the sanitary condition of barracks was, as previously reported, satisfactory, with ample accommodation and sufficient ventilation; the married quarters were also satisfactory, and the only alteration in them was the removal of a portion of the roof of one of the verandahs, the edge of which came too low and interfered with light and ventilation; the verandah was then closed in with bamboo trellis work. The water supply was good and abundant, and the means of ablution sufficient, one room with water laid on attached to each barrack, and a swimming bath, which is much used. The drainage was well attended to, and the dry-earth system of conservancy carried out satisfactorily. With regard to clothing, white or khaki was worn in the summer, but the medical officer was of opinion that the serge jackets worn by the troops in the winter months are not sufficient protection against the cold winds which prevail at this station. The hospital is reported as satisfactory in all respects, except that a detached building as a ward for women and children is desirable. New quarters are also required for the hospital attendants.

Poona District.—The general health of the troops was good, but venereal disease was still very prevalent. The barracks both at Wanowrie and Ghorpuri are reported to have been in a satisfactory sanitary condition; there was no overcrowding, the ventilation was good, and the barrack rooms were in good order. The surface drainage is satisfactory. The waste water is collected

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in receptacles which are emptied daily. Conservancy was well attended to. Improved carts for this purpose were about to be provided. There was a considerable diminution in the amount of malarial fevers in the Ghorpuri barracks as compared with the preceding year. At Kirkee the year was an exceptionally healthy one. The sanitary condition of the station is generally good. There was no change in the barracks, but the regimental institute was opened during the year and was of great benefit to the men. It is remarked that the draining of waste water into sunken receptacles, to be carried away subsequently by hand, has not worked well, as overflow constantly takes place, saturating the surrounding ground; it would be very beneficial if this waste water could be run off to some distance from the barracks. The hospital is well situated and in good order; a separate conservancy establishment was entertained for it with excellent results. At Ahmednagar the health of the troops was very good, except for the prevalence of venereal disease, but for which the sick rate would have been very low. There was no change in the barrracks during the year, except that a new armourer's shop was built and the canteen was re-erected in the infantry barracks. The drainage was improved by lengthening the drains and allowing them to empty into a nullah with a good fall, which runs away from the barracks. At Satara the barracks and married quarters were in good sanitary condition, and there was no overcrowding. The water supply for the barracks and hospital was good, and quantity sufficient except in the month of May, when the wells got very low. In the Fort the quality of the water was doubted and analysis made, with the result that water from only two sources was pronounced fit for potable purposes. The hospital accommodation was not sufficient for requirements, and it was necessary to treat the surplus patients under canvas. At Purandhur there was no change in the barracks, they were well attended to, and the only defect was that some of the older portions of the roofs leaked during the rains and required renewal. The hospital was kept in a satisfactory state of repair. The servants' quarters were re-roofed during the year; the latrine accommodation for these quarters was insufficient, but was only of a temporary nature. The warming and drying of the wards was fairly satisfactory, and the stoves worked well. In the barrack rooms during the rains facilities were given to the men to dry their clothes, and were taken advantage of to a considerable extent. The amount of drinking water was increased during the year by the addition of another well to those already in use. At Khandalla the barracks were satisfactory and afforded sufficient accommodation. The hospital also met requirements, but there were no quarters for servants; an arrangement was suggested for their provision which was about to be carried out.

Mhow District.—At Mhow the general health of the troops was good and the barracks in satisfactory sanitary condition. The water supply from the Bercha reservoir was ample in quantity and generally of good quality, but at certain seasons it shows some impurity. Filters, however, have been provided with satisfactory result. The dry-earth system of conservancy is in use and has proved satisfactory. At Nasirabad the sanitary conditions of barracks and their vicinity were favourably reported on, but during the repair of two barrack rooms there was slight temporary overcrowding. The drinking water from the Dilwara well is brought into the station in water-carts and distributed to the filters in the various buildings; this water is said to be very pure. Water from the Danta well is also used, though it is not so pure as the other, by the native troops and in the bazar. At Neemuch no structural alteration took place in barracks; the accommodation was sufficient, the ventilation good, and the lighting and warming satisfactory. The married quarters are in good order and afforded more than ample accommodation. All the water for drinking and cooking purposes was procured from a well near the hospital, the supply from which is very good. The rations were generally good, and great care was taken regarding the milk supply, the milking of the animals being superintended and their food supply rendered purer. At Indore the barracks were in good sanitary condition, as also the hospital and married quarters. The water supply is from wells, clear and pleasant, and is always filtered. At Khundwa rest camp the barracks are satisfactory for the purpose for which they are used. When large bodies of troops pass through the accommodation is not enough, and verandahs and sometimes tents are used, but the time they are occupied is very short. The vicinity is in a good

sanitary condition, except that in the monsoon water stagnates in two large ditches to the westward; it has been recommended that these should be filled up. At Taragarh the sanitarium was utilised by troops from the end of March until the early part of November with considerable benefit to their health. The sanitary conditions under which they lived were carefully attended to.

Nagpur District.—At Kamptee no structural alterations were made in the barracks during the year, and the accommodation was sufficient. The block of barracks known as C, D, and E range, formerly married quarters, but converted some time ago into quarters for single men, were occupied by one company and drummers for the first seven months of the year, but several cases of enteric fever occurring in them at the end of July they were, at the recommendation of the medical officer, vacated and not afterwards occupied. There were no positive insanitary conditions in the neighbourhood of these buildings, but they are situated at a lower level than the rest of the lines, and consequently much of the surface drainage gravitates in their direction. The roofs were old and leaked in many places during the monsoon, and in the rooms themselves there was not the same movement of air as in other barracks. The present system of disposal of foul water from the kitchen sinks is unsatisfactory, and the medical officer recommends that there should be iron receptacles, which could be removed bodily, instead of the present masonry tanks. He also recommends that the urinals for the infantry should be placed at a somewhat greater distance than they now are. During the rains the hospital accommodation was insufficient, this was owing to the great prevalence of ague at the time. At Sitabuldi the barrack placed on the eastern side of the hill is a single storied stone building with a terrace roof. It consists of two central rooms and a wing on each side, the former being used for dining and recreation rooms, and the latter as dormitories. The situation of the barrack is good, the accommodation was sufficient, and the ventilation was satisfactory, The hospital was in sanitary condition and gave enough accommodation. It was during the latter half of the year converted into a non-dieted hospital, so that all serious cases and those requiring more than a few days' treatment are sent to the station hospital at Kamptee. Ajmeergarh is situated on a hill 3,697 feet in height, close to Amakantah, in the Bilaspur district of the Central Provinces. Owing to its situation, exposed to breeze from every direction, and the fact that when the Bengal-Nagpur railway would be opened there would be a station about eight miles from its foot, it was decided to send a party to test its suitability as a sanitarium for the troops stationed at Kamptee; accordingly a small party of selected healthy men left Kamptee on the 17th March. The railway not being open the men had to march about twenty miles over a very hilly jungly road before arrival at the foot of the hill. An ample supply of tents had been provided, and these were "chuppered," with an interval of about a foot between thatch and outerfly. The water was good and abundant, but had to be carried a considerable distance. The detachment was well clothed, fed as well as possible, did little work, and all possible precautions were taken against malaria. The experiment, however, proved a failure, and the detachment was withdrawn after about fifty days' stay on account of the amount of malarial fever from which the men suffered.

XIV.—ON THE HEALTH OF THE TROOPS SERVING IN EGYPT.

Sickness and Mortality.

Egypt.

The average strength of British troops serving in Egypt was 3,209 warrant officers, non-commissioned officers, and men. The force serving in the Command consisted of one squadron of the 20th Hussars from the commencement of the year until the middle of October, when it proceeded to England on relief by a squadron of the 17th Lancers from India. The 2nd Battalion King's Own Scottish Borderers, which had been stationed in Egypt for nearly a year and a half, left the Command for India on the 2nd January. Throughout the year there were the 10th Battery, Eastern Division, Royal Artillery, the 24th Company Royal Engineers, the 2nd Battalion Suffolk Regiment, the 1st Battalion Dorsetshire Regiment, the 2nd Battalion Royal Irish Rifles, Mounted Infantry, detachments Army Service Corps, Medical Staff Corps, Ordnance Store Corps, and Garrison Staff. The stations occupied during the year were Cairo and Alexandria; in the former the general health of the troops was very good, but in the latter not so good.

In the subjoined table will be found the principal statistics of sickness, mortality, and invaliding, &c. among the troops :—

1890. Average Strength.	Admissions.	Deaths.			Invalids		Constantly Sick.	Ratios per 1,000 of Strength.				
		In the Command.	Of Invalids.	Total.	Sent Home.	Finally Discharged.		Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.
3,209	3,177	39	1	40	58	43	206·19	990·0	12·47	18·07	13·40	64·25

Compared with corresponding ratios in the previous year there is an increase, 34·6 per 1,000, in the ratio of admission, and one of 3·80 in that of constantly sick, also a fractional increase in the death rate, but compared with average ratios for the preceding seven years a decrease is observed in all the rates, being 250·4 in the case of admission, 9·62 in that of constant inefficiency, and 13·19 in that of mortality. The average sick time to each soldier was 23·45 days, which is longer than the corresponding period in the previous year by 1·38 days, but shorter than the average similar period in the previous seven years by 3·51 days. The average duration of each case of sickness was 23·69 days, being by a fraction of a day longer than in the preceding year, and longer by 1·96 days than the septennial average period.

The following table shows the relative sickness in Cairo and Alexandria :—

Stations.	Average Strength.	Admissions.	Deaths.	Ratios per 1,000.	
				Admissions.	Deaths.
Cairo - - - -	2,304	2,104	15	913·2	6·51
Alexandria - - - -	905	1,073	24	1185·6	26·52

Compared with corresponding ratios in the previous year the ratio of admission in Cairo shows a decrease of 106·9, and that of mortality one of 7·92, but at Alexandria both ratios have increased considerably, the former by 352·0 and the latter by 20·98.

Egypt.

In Abstract XL. will be found the principal statistics of sickness and mortality of the different arms of the service and of the several corps which served in Egypt during the year. Of the arms of the service the infantry gave the highest admission ratio, 1092·6 per 1,000, followed by the engineers with 788·8, the cavalry with 730·2, the artillery with 716·3, and departmental corps 476·6. Mortality was highest in the engineers, 19·24 per 1,000, and lowest in departmental corps, 6·23. The constantly sick rate was greatest in the infantry, 72·21 per 1,000, and lowest in departmental corps, 27·79. Of individual corps the highest admission and constantly sick rates were 1305·9 and 84·13 per 1,000 respectively in the 2nd Battalion Suffolk Regiment, quartered at Alexandria, followed by 1010·0 and 71·15 in the 1st Battalion Dorsetshire Regiment, at Cairo. The highest mortality rate, 30·07 per 1,000, dependent on 23 deaths, was also in the first-named regiment. The high ratios of sickness and mortality in the 2nd Battalion Suffolk Regiment were principally due to a prolonged outbreak of enteric fever.

In the subjoined table will be found the sickness and mortality among the troops arranged according to the age of the men:—

Ages.	Average Strength.	Admissions.	Deaths in Command.	Invaliding.	Ratios per 1,000 of Strength.		
					Admissions.	Deaths.	Invaliding.
Under 20 years - -	186	229	1	2	1231·2	5·38	10·75
From 20 to 24 years -	1,938	2,195	29	36	1132·6	14·96	18·57
„ 25 „ 29 „ -	803	649	8	8	808·2	9·96	9·96
„ 30 „ 34 „ -	196	73	1	9	372·5	5·10	45·92
„ 35 „ 39 „ -	68	19	—	2	279·4	—	29·41
Over 40 years - -	18	12	—	1	666·7	—	55·56
Total - -	3,209	3,177	39	58	990·0	12·47	18·07

It will be seen that the highest admission ratio was among men under 20 years of age, the next, but still high, among men between 20 and 25 years of age, after which the rate decreased steadily through the succeeding quinquennia until the period over 40 years is reached, when it increased again. In the preceding year, with the exception that the admission ratio among men under 20 years of age was much lower than in the year under report, the sequence of ratios was precisely similar. It is also noteworthy that the admission ratio among men between 20 and 25 years, when the average strength was greatest, was, excluding fractions, identical with that in the previous year. Mortality was highest among men between 20 and 25 years of age, and then among men in the next quinquennium. In the previous year high ratios were also found in these periods.

In the next table will be found the sickness and mortality among the troops, arranged to show, as far as possible, the influence of length of service in the Command:—

Length of Service in Command.	Average Strength.	Admissions.	Deaths in Command.	Invaliding.	Ratios per 1,000 of Strength.		
					Admissions.	Deaths.	Invaliding.
Under 1 year - -	1,544	1,906	29	29	1234·5	18·78	18·78
From 1 to 2 years -	623	468	3	10	751·2	4·81	16·05
„ 2 „ 3 „ -	628	611	5	13	972·9	7·96	20·70
„ 3 „ 4 „ -	109	67	1	3	614·7	9·17	27·52
„ 4 „ 5 „ -	151	78	—	1	516·5	—	6·62
Over 5 years - -	154	47	1	2	305·2	6·49	12·99
Total - -	3,209	3,177	39	58	990·0	12·47	18·07

Egypt.

It will be observed that the highest ratio of admission was among men in their first year of service in the Command, that the rate among men in their second year was considerably lower, among men in their third year the ratio rose again, and gradually declined through the remaining years. In the preceding year's report it is seen that the highest admission rate was among men in their second year of service in the Command, after which it declined steadily. Mortality in the year under report gave by far the highest rate among men in their first year of service in the country, while amongst men in their second year of service the rate was low. In the return for the previous year it will be found that these positions were exactly reversed.

In Abstract XXXVI. will be found the principal statistics of sickness and mortality, &c., arranged according to the different groups and orders of diseases.

GENERAL DISEASES.—*Diseases dependent on Morbid Poisons.* — *Eruptive fevers* were represented by 3 cases of scarlet fever which occurred at Alexandria. There was not a single case of small-pox, though this disease caused as many as 42 admissions in 1889, and had been very prevalent in previous years.

Enteric Fever caused 123 admissions and 23 deaths, being in the ratios of 38·3 and 7·17 per 1,000 respectively. Compared with corresponding ratios in the previous year, there is a decrease of 2·2 in the admission ratio, but an increase of 3·09 in the death rate, and compared with average similar ratios for the preceding five years, the admission ratio is lower by 11·3 and the death ratio by 6·53. The constantly sick rate was 6·80 per 1,000, which is below the rate in 1889 by ·21, and just above the average rate. The per-centage of mortality to attack was 18·7 as compared with 10·1 in the previous year, and with 27·6, the average of the preceding five years. The relative sickness and mortality from this disease at the two stations is shown in the following table :—

Stations.	Average Strength.	Admissions.	Deaths.	Constantly Sick.	Ratios per 1,000 of Strength.		
					Admissions.	Deaths.	Constantly Sick.
Cairo - - -	2,304	28	3	7·92	12·1	1·30	3·44
Alexandria - -	905	95	20	13·91	105·0	22·10	15·37

In Cairo there is a great decrease observed in all these ratios as compared with the return for the previous year, but in Alexandria the increase is very marked, which is due to a prolonged outbreak of this disease in the 2nd Battalion Suffolk Regiment. This commenced in May, rose to its maximum in September, and steadily declined from October, the type of fever also becoming less virulent. In the same garrison the other troops, all more acclimatised and seasoned, were very nearly free of the disease. This regiment on its arrival at Alexandria had 260 young soldiers in its ranks under 20 years of age. Out of the 95 admissions and 20 deaths, 87 admissions and 19 deaths occurred in this battalion. Of the cases at Cairo, 17 occurred in the 1st Battalion Dorsetshire Regiment, 4 in the 2nd Battalion Royal Irish Rifles, 3 each in the 20th Hussars and Royal Engineers, and 1 in the Army Service Corps. 13 cases came from Kasr-el-Nil, 10 from Abbassiyeh, 2 from the Citadel, 1 from Abdin, and 2 cases were contracted in hospital. The source of the disease in most of the cases could not be traced, but probably in many cases the disease was contracted in the bazars. At Abbassiyeh several old drains and cess-pits were discovered and opened; it is possible that these were a source of infection, which idea is borne out by the fact that 6 of the cases from this place occurred about the same time and while these sanitary works were in progress.

Simple Continued Fever caused 268 admissions, being in the ratio of 83·5 per 1,000, which is lower than the corresponding rate in the previous year by 22·9, and below the average rate for the preceding five years by 89·6. The

average constantly sick rate, 3·92 per 1,000, shows a decline of ·38 and 3·10 respectively in these comparisons. The decrease in these fevers is said by the Principal Medical Officer, Deputy Surgeon-General J. Jameson, to be probably attributable to the general low temperature of the summer months in the year under review. With regard to Cairo it is stated also that the decrease in the prevalence of this disease was probably partly due to the fact that the troops were composed almost entirely of acclimatised men. *Egypt.*

Dysentery was the cause of 102 admissions and 2 deaths, of these 32 cases and 1 death occurred in Cairo, and 70 and 1 death in Alexandria. The admission ratio, 31·8 per 1,000, is lower than in the preceding year by 4·6, and below the quinquennial average rate by 27·2. The mortality rate, ·62 per 1,000, has declined by ·84 and 1·92 in these comparisons. The cases were mostly mild in character, especially in Cairo.

Influenza, which was epidemic over the whole of Europe, reached Cairo during the second week of February, arrived at its climax in the third week, then rapidly declined and disappeared totally in the second week of March. There were 47 admissions, equal to 14·7 per 1,000, returned as all occurred at Cairo; there were, however, at the same time numerous cases of bronchial catarrh, some of which were probably slighter forms of the epidemic. The cases were all mild, and convalescence was rapid and complete. The chief sufferers from the disease were the troops quartered in Kasr-el-Nil.

Malarial Fevers.—13 cases of ague are returned, 3 from Cairo and 10 from Alexandria; the admission ratio, 4·0 per 1,000, is above the corresponding rate in the previous year by 2·8, but is a good deal below the average rate for five years.

Septic Diseases.—5 admissions are shown as compared with 2 in the previous year. All the cases were erysipelas, and all occurred in Cairo. One case terminated fatally.

Venereal Diseases continued very prevalent during the year. The admissions for *primary syphilis* were 265 in number, being in the ratio of 82·6 per 1,000, the constantly sick ratio was 6·65. These are considerably higher than the corresponding rates in the previous year, by 35·4 and 2·74 per 1,000 respectively. Including the sickness from simple venereal ulcer, the admission rate for primary venereal sores amounted to 141·5, and the constantly sick rate to 11·89 per 1,000, which are above similar ratios in the preceding year by 9·5 and 2·36 respectively. Compared with the average ratios for the preceding five years, however, there is a decline of 3·4 in the admission rate, though an increase of 1·51 in the constantly sick rate. *Secondary syphilis* caused 134 admissions, equal to 41·8 per 1,000, and 10·63 men, or 3·33 per 1,000, were constantly sick from this affection. The admission ratio is higher than that in the previous year by 17·9, and above the average rate of five years by 13·6; the ratio constantly sick is also higher in both these comparisons by 1·10 and 1·09 respectively. The admission for *gonorrhœa* numbered 321, and 18·20 men were constantly sick; the ratios were therefore 100·0 and 5·67 per 1,000 respectively. These do not differ much from the corresponding ratios in the preceding year, only by a decline of 4·6 in admission rate, and one of ·25 in constantly sick rate, and they only vary from the similar quinquennial average ratios by a decline of 2·5 in the former, and one of ·47 in the latter. Including all forms of venereal disease, the total admission rate amounted to 283·3 per 1,000, which is above the last year's rate by 22·8, and above the quinquennial average rate by 7·7. The total ratio of constant inefficiency from these affections was 20·89 per 1,000, being above the ratio in the previous year by 3·21, and above the average by 2·13. Though the amount of increase in prevalence over that in previous years is not very great, yet it is remarked by the medical officer in charge of the Citadel hospital at Cairo that the syphilis was of a severe type, and was frequently followed by very intractable secondary and tertiary symptoms. In Cairo alone the admission rate for venereal diseases was 285·6, and the constantly sick rate 21·66 per 1,000, and in Alexandria the ratios were 277·3 and 19·08 per 1,000 respectively.

Parasitic Diseases caused 3 admissions for tænia solium against 15 in the preceding year, and *alcoholism* caused 15 admissions as compared with 27. None were severe cases or require special comment.

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Debility caused 29 admissions, or 9·0 per 1,000, less than in the previous year by 5·3, and considerably below the average rate. All the cases were due to climatic influences.

Rheumatism.—95 admissions and 1 death are returned; the admission ratio, 29·6 per 1,000, is above the previous year's rate by 10·1, and somewhat above the average rate. Among the admissions were 10 for rheumatic fever, nine in Cairo, and one, fatal, in Alexandria.

Tubercular Diseases caused 8 admissions and 3 deaths, including that of an invalid. All the cases were lung disease. The admission ratio, 2·5 per 1,000, is lower than in the previous year by 1·9.

The remaining admissions in this group of diseases were all for non-malignant new growths, chiefly papilloma.

Local Diseases.—*Diseases of the Nervous System.*—22 admissions are returned, equal to a ratio of 6·8 per 1,000, which is almost identical with the corresponding rate in the previous year, though a good deal below the average rate of five years. Among the cases treated were 4 of mental disease. Of the remaining admissions the principal cause was neuralgia. One death occurred from inflammation of the membranes of the brain.

Diseases of the Eye.—100 admissions are returned, being in the ratio of 31·2 per 1,000, which is lower than the last year's rate by 8·4, and considerably below the average rate. Out of the total number of admissions 83 were for conjunctivitis.

Diseases of other Organs of Special Senses gave an admission ratio of 15·6 per 1,000, almost identical with the previous year's rate, and just about the average rate. Out of 50 admissions, 47 were for aural diseases, principally inflammation of external meatus, and there were three cases of nasal affection.

Diseases of the Circulatory System were the cause of 61 admissions; being in the ratio of 19·0 per 1,000, in excess of the last year's rate by 3·3, and above the average rate. Among the cases treated were 36 of palpitation and 18 of valvular disease of the heart, one of which was fatal.

Diseases of the Respiratory System.—93 admissions are returned, equal to a ratio of 29·0 per 1,000, about the average rate, but in excess of the rate in the previous year by 10·3. The principal causes of sickness were bronchial affections 62 cases, and among the remainder were 10 of pleurisy, 7 of pneumonia, and 7 of laryngitis.

Diseases of the Digestive System caused 444 admissions and 3 deaths; the admission rate, therefore, was 138·4 per 1,000, which is below the average rate, but exceeds the rate in 1889 by 5·2. The principal causes of admission were affections of the mouth and throat 120 cases, diarrhœa 88, dyspepsia 82, and hepatic affections 77, including two fatal cases of abscess of the liver; there was also one death from acute yellow atrophy of the liver.

Diseases of the Lymphatic and Glandular System caused an admission ratio of 20·9, slightly below the last year's rate, and below the average rate. There were 3 admissions for *diseases of the urinary system*, as compared with 6 in the previous year. *Diseases of the generative system* caused 233 admissions, and 19·02 men were constantly sick; of these 189 admissions and 16·32 constantly sick were for simple venereal ulcer. The admission rate, 72·6 per 1,000, was lower than that in the previous year by 28·0. *Diseases of the organs of locomotion* gave a ratio of 8·4 per 1,000, greater than in the previous year by 2·6. Of 27 admissions two-thirds were cases of synovitis. *Diseases of the connective tissue* were the cause of an admission rate of 39·3 per 1,000, a good deal in excess of the previous year's rate, and above the average rate. *Diseases of the skin* caused 201 admissions, equal to 62·6 per 1,000, an increase of 20·3 on the last year's rate. Eczema, ulcers, boils, and whitlows were the chief causes of admission.

Poisons.—Under this head 5 admissions are returned, all cases of poisoning by fish, and resulted from eating some tinned herrings; the men affected rapidly recovered.

Injuries.—288 admissions and 5 deaths are recorded, being in the ratios of 89·7 and 1·56 per 1,000. Compared with the returns in the previous year, the admission ratio shows scarcely any difference, but it is rather below the average rate. With regard to general injury there was one admission for multiple injury, 2 deaths from asphyxia by plugging of air passages with food

while in a state of intoxication, and 1 from asphyxia by drowning, accidental. Of 287 admissions for local injury the principal causes were contusions, wounds, and sprains. Two deaths occurred from gunshot wound, both suicidal.

Invaliding.—The number of men invalided home during the year was 58, being in the ratio of 18·07 per 1,000, which is lower than the corresponding rate in the previous year by 17·78, and than the similar average ratio for the preceding seven years by 60·92. With regard to invaliding from particular corps, and excluding those with small average annual strength, the highest ratio of invaliding was in the 1st Battalion Dorsetshire Regiment, 26·25 per 1,000, and the next in the 2nd Battalion Royal Irish Rifles, 20·78 per 1000; the lowest rate was 7·09 per 1,000 in the 10th Battery, Eastern Division, Royal Artillery, the next above being 9·15 in the 2nd Battalion Suffolk Regiment. As to the ages of the men invalided it will be seen from the table given above that the greatest number of men were invalided between 20 and 25 years of age, the ratio being 18·57 per 1,000, though the highest ratio was among men over 40 years of age, but the average strength was small. As to service in the Command, the greatest number of men were invalided in their first year, the ratio being 18·78 per 1,000; the rate falls slightly among men in their second year, but increases again among men in their third year of service in the country. The principal causes of invaliding were enteric fever, 7 cases, or 2·18 per 1,000, as compared with 6·12 in the previous year; debility 6 cases, or 1·87 per 1,000; tubercular diseases 5, or 1·56 per 1,000; diseases of the circulatory system 10 cases, or 3·12 per 1,000, and diseases of the digestive system 6 cases, or 1·87 per 1,000. The number of men finally discharged as medically unfit for further service was 43, equal to a ratio of 13·40 per 1,000, which is below the corresponding rate in the previous year by 1·17, and below the decennial average rate by 13·75 per 1,000. The principal disabilities necessitating discharge were secondary syphilis, 4 cases, or 1·25 per 1,000; debility, 8 cases, or 2·49 per 1,000; diseases of the nervous system, 6 cases, including 4 of mental disease, or 1·87 per 1,000; diseases of the circulatory system, 10 cases, or 3·12 per 1,000, and diseases of the digestive system 3 cases, or ·94 per 1,000.

Officers.—The average strength was 116, and the number of cases of sickness 90; there were no deaths, and 4 officers were invalided home. The ratio of prevalence of sickness was 775·9 per 1,000, a decline of 174·1 from the corresponding rate in the previous year. Among the cases treated were 3 of influenza, 32 of simple continued fever, 2 of enteric fever, 2 of dysentery, and 7 of hepatic affections. The causes of invaliding were enteric fever, diarrhœa, hepatitis, and cystitis, one case respectively.

Women.—The average strength is shown as 145, and there were 224 cases of illness and 2 deaths. The ratio of prevalence of sickness was 1544·8 per 1,000 which is higher than that in the previous year by 578·1; the death rate, 13·79 per 1,000, shows a decrease of 11·21. Among the cases treated were 1 of small-pox, 4 of influenza, 29 of continued fever, including 4 of enteric fever, 6 of dysentery, 40 of debility, 33 of conjunctivitis, 16 of dyspepsia, and 15 of diarrhœa. Both the deaths were caused by enteric fever.

Children.—The average strength was 191, and there were 359 cases of sickness and 17 deaths, being in the ratios of 1879·6 and 89·01 per 1,000, which are higher than the corresponding ratios in the previous year by 780·1 and 5·24 respectively. The admissions included 3 of measles, 4 of diphtheria, 2 of enteric fever, 16 of dysentery, 28 of debility, 107 of conjunctivitis, 30 of bronchial affections, 21 of teething, and 71 of diarrhœa. The causes of death were debility 4 cases, diphtheria and enteritis 3 cases each, diarrhœa 2, convulsions 2, and dysentery, croup, and pneumonia one case respectively.

Sanitary Conditions.—The Principal Medical Officer states that at the several stations sanitation was observed carefully throughout the year. The barracks and quarters occupied by the troops have been specially cared for, but much remains to be done.

At Alexandria the Ras-el-Tin Barracks, in which the 2nd Battalion Suffolk Regiment was quartered, furnished most of the cases of enteric fever. The barracks are in many ways faulty, and are in close proximity to a village rather densely populated with natives whose insanitary habits are a constant

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danger to the troops. The situation is on a spit of land of small dimensions, and the men, when seeking amusement elsewhere, are compelled to pass through foul smelling streets containing a low class of shops in which food and drink of a character open to grave suspicion are sold. In the hospital at Ras-el-Tin the only change during the year was the appropriation of a ward and the office of the medical officer in charge as a medical officer's quarter. In November, on account of the increase of sickness, the ward was re-equipped, also the recreation room, and a tent pitched to raise the accommodation so as to be sufficient for the number of sick. At Alexandria the water supply is from the Nile, and is filtered through zeers, which are kept constantly clean, and are destroyed as soon as they become unserviceable. The dry-earth system is in use generally, except at the caracols, where there are waterclosets. It is not an easy thing to carry out the dry-earth system in perfection in this country; soldiers are generally careless in this matter, and the material supplied requires careful attention to prevent its being mixed with sand. The general sanitary condition of the town of Alexandria is still bad, and during the hot weather the odours from the seashore are often very offensive.

At Cairo the health of the troops was good. Some sanitary defects were discovered at Abbassiyeh in the form of old drains acting as cesspits in the neighbourhood of the Hareem Hospital. These were carefully disconnected and filled in. A native village near Abbassiyeh was demolished, and it is said that it has been determined to demolish an exceedingly dirty village situated close to the walls of the Citadel. Some open ground near Kasr-el-Nil was the receptacle of every kind of filth and rubbish; but it has been fenced in, levelled, and in some places built upon, and, though still somewhat objectionable, is much better than it was. The sanitary arrangements of the hospital at Cairo were most carefully attended to with good result; the ventilation was good, the cubic space sufficient, and the ablution arrangements, baths, and washhouses are satisfactory. As regards the clothing of the men, it is well suited to the climate. The quality of the rations and the means of cooking were fairly satisfactory.

XV.—ON THE HEALTH OF THE TROOPS ON BOARD SHIP.

Troops on Board Ship.

The troops embarked during the year, as shown in the returns received in the Army Medical Department, were :—

I. Troops proceeding on service abroad - - -	18,786
II. Troops returning from abroad - - - -	12,206
III. Troops proceeding from one station abroad to another	6,772
IV. Invalids returning to England - - -	2,118

I.—Troops proceeding on Foreign Service.

The total number of warrant officers, non-commissioned officers, and men embarked for foreign service during the year was 18,786, the equivalent annual strength being 1,269. There were 1,601 admissions into hospital and 10 deaths, being in the annual ratios of 1,261·6 and 7·88 per 1,000 respectively. Compared with corresponding ratios in the previous year there is an increase of 211·7 in the ratio of admission and one of 6·13 in that of mortality, and compared with average ratios for the previous ten years there is an increase of 236·7 in the former and one of 4·50 in the latter.

The admissions and deaths in the different groups and orders of diseases are shown in Abstract XXXVII.

General Diseases.—*Diseases dependent on Morbid Poisons.—Eruptive fevers* were represented by a single case of measles on board H.M.S. "Crocodile," in December, while proceeding to India; the disease was prevalent among children. *Enteric fever* caused two admissions, one on H.M.S. "Malabar," en route to India, in October, and the other on H.M.S. "Crocodile," on the voyage already mentioned. The first case terminated fatally; both were probably contracted before embarkation. *Simple continued fever* caused 15 admissions, equal to 11·8 per 1,000, which is higher than in the previous year by 1·3. There was one admission for *dysentery* and seven for *influenza;* the latter all occurred on H.M.S. "Orontes," en route to Hong Kong, in January.

Malarial fevers were the cause of 3 admissions only, all cases of ague, and *septic diseases* were represented by one case of erysipelas. *Venereal diseases* were, as usual, the chief causes of illness. *Primary syphilis* caused 234 admissions, equal to a ratio of 184·4 per 1,000, which is higher by 10·2 than the corresponding rate in the previous year. Including the sickness from simple venereal ulcer, which caused 87 admissions, the admission ratio for primary venereal sores was 252·9 per 1,000, which, however, is lower than in 1889 by 14·1. *Secondary syphilis* caused 59 admissions, the ratio being 46·5 per 1,000 as compared with 35·0 in the preceding year. *Gonorrhœa* was the cause of 425 admissions, being in the ratio of 334·9 per 1,000, an increase of 56·4 on the last year's rate. Including all forms of venereal disease, the total admission rate reached 634·3 per 1,000, which is more than half the admission ratio from all causes of sickness and is above the corresponding rate in the previous year by 53·7.

One case of *scurvy* is returned, which occurred on H.M.S. "Crocodile," en route to Bombay, in March. Three admissions are returned under the head of *alcoholism*, two of which were cases of delirium tremens. *Debility* caused 11 admissions, or 8·7 per 1,000.

Rheumatism caused 31 admissions and 2 deaths. The admission ratio, 24·4 per 1,000, is four times as great as that in the preceding year. Of the admissions, 6 were for rheumatic fever, two of which terminated fatally. The remaining admissions for general diseases were one for anæmia and 19 for non-malignant new growths.

Local Diseases.—*Diseases of the Nervous System* were the cause of 5 admissions, two for neuralgia, two for paralysis, and one for epilepsy. *Diseases of the eye* gave 9 admissions, principally cases of conjunctivitis, and there were 7 admissions for *aural* affections. *Diseases of the circulatory system* caused 4 admissions and one death. Of the cases 3 were palpitation,

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and the fourth, fatal, was one of syncope. *Diseases of the respiratory system* gave an admission rate of 96·9 per 1,000, as compared with 28·9 in the previous year. The cases treated comprised 67 of bronchitis, with one death, pneumonia 51 cases with four deaths, pleurisy 3, and pneumonic phthisis and pulmonary hæmorrhage one case respectively. *Diseases of the digestive system* caused 149 admissions, equal to a ratio of 117·4 per 1,000, which is an increase on the previous year's rate by 54·4. Sore throat was the chief cause of admission, as many as 101 cases being returned. *Diseases of the lymphatic and glandular system* caused an admission rate of 26·0 per 1,000, an increase of 8·5 on the last year's rate. *Urinary diseases* caused only 3 admissions, one each for nephritis, Bright's disease, and retention of urine. *Diseases of the generative system* gave an admission ratio of 111·9 per 1,000, a decline of 48·4 from the last year's rate. The principal cause of sickness was simple venereal ulcer, and next was balanitis. *Diseases of the connective tissue* were at the rate of 23·6, and *diseases of the organs of locomotion* one of 3·1 per 1,000. *Calcareous diseases* caused 178 admissions, or 140·3 per 1,000, an increase of 21·2 on the rate in the previous year. The principal causes of admission were itch, ulcers, and boils. *Injuries* were 96 in number, being in the ratio of 75·6 per 1,000, differing but slightly from the rate in the previous year. General injuries gave 5 admissions, four from heat apoplexy, with one death, and one from burn. Local injuries were principally contusions, wounds, and sprains, of no great moment.

The number of officers embarked was 940; among them only 19 cases of sickness are returned. The number of women embarked was 954; among them was one death from heat apoplexy. There were 1,215 children embarked, and 6 of them died, three from debility and one from tubercle, bronchitis, and diarrhœa respectively.

II.—Troops returning Home from Abroad.

The number of effective warrant officers, non-commissioned officers, and men who embarked for England was 12,206, the equivalent annual strength being 891. The number of admissions into hospital was 1,246, and there were 12 deaths. The annual admission ratio was, therefore, 1398·4, and the annual mortality rate 13·47 per 1,000, which are higher than the corresponding ratios in the previous year by 191·4 and 12·38, and than the average similar ratios for the preceding ten years by 471·4 and 2·46 respectively.

The admissions and deaths in the different groups and orders of diseases are shown in Abstract XXXVII.

General Diseases.—*Diseases dependent on Morbid Poisons.*—There were no admissions for either *eruptive fevers* or *enteric fever*, but *simple continued fever* caused 29 admissions, equal to a ratio of 32·6 per 1,000, an increase of 20·6 on the rate in the previous year. There were 14 admissions for *dysentery* with 3 deaths, being in the ratios of 15·7 and 3·37 per 1,000, as compared with 25·0 and *nil* respectively in the preceding year. There were 9 admissions for *influenza*, five in H.M.S. Orontes in March, on her voyage from China, and four in H.M.S. "Malabar" about the same time, on her voyage from India.

Malarial Fevers.—192 admissions and 1 death are returned. The admission ratio was 215·5 per 1,000, and was in excess of the corresponding rate in the previous year by 44·5. The death rate was 1·12 per 1,000; in 1889 there was no mortality. Of the cases 4 were remittent fever and the remainder ague. The death was caused by remittent fever.

Septic diseases were represented by 3 cases of erysipelas.

Venereal Diseases.—The admissions for *primary syphilis* were 247 in number, being in the ratio of 277·2 per 1,000, an increase of 83·3 on the ratio in the previous year. Including simple venereal ulcer, the admission rate for primary venereal sores was 319·8 per 1,000, an increase of 23·5. *Secondary syphilis* caused 42 admissions, or 47·2 per 1,000, as compared with 35·9 in 1889. The admissions for *gonorrhœa* were 188 in number, the ratio of admission being 211 0 per 1,000, a decrease of 19·9 from the last year's rate. Including all forms of venereal disease, the total ratio of admission was 578·0 per 1,000, which is higher than the corresponding rate in the previous year by 14·8.

Scurvy caused one admission and *alcoholism* three, one of them being a case of delirium tremens. The admissions for *debility* were 13 against 8 in the previous year. *Troops on Board Ship.*

Rheumatism caused 28 admissions, or 31·4 per 1,000, an increase of 5·3 on the last year's rate. Of the cases two were rheumatic fever. The remaining admissions in this group were two for non-malignant new growth.

Local Diseases.—*Diseases of the Nervous System* caused 6 admissions as compared with 2 in the previous year. The cases comprised 3 of neuralgia, 2 of dementia, and one of epilepsy. *Diseases of the eye* caused 9 admissions, all but two cases of conjunctivitis. *Diseases of the ear* gave 6 admissions for inflammation of external meatus. *Diseases of the circulatory system* were represented by 4 admissions for palpitation and 1 for varicose veins. A death occurred from syncope. *Diseases of the respiratory system* caused 151 admissions and 4 deaths, being in the ratios of 169·5 and 4·49 per 1,000. The admission ratio is greatly in excess of that in the previous year. The cases comprised 118 of bronchitis, 19 of pneumonia, 12 of pleurisy, and 2 of asthma. All the deaths were due to pneumonia. *Diseases of the digestive system* caused 60 admissions and 3 deaths, being in the ratios of 67·3 and 3·37 per 1,000, as compared with 91·5 and *nil* respectively in the preceding year. The principal causes of admission were 21 of affections of the mouth and throat, 18 of diarrhœa, and 13 of hepatic affections. *Diseases of the lymphatic and glandular system* gave an admission ratio of 49·4 per 1,000, a decrease of 2·9. *Urinary affections* caused 3 admissions, as in the previous year. *Diseases of the organs of locomotion* caused 5 admissions as compared with 2 in 1889. *Diseases of the generative system* gave an admission ratio of 47·1 per 1,000, a considerable decrease from the rate in the preceding year. *Diseases of the connective tissue* were at the rate of 19·1 per 1,000 as compared with 25·0. *Diseases of the skin*, with a ratio of 67·3 per 1,000, also show a decrease as compared with the previous year.

Injuries.—66 admissions are recorded, equal to 74·1 per 1,000 as compared with 39·2 in 1889. There was one admission for sunstroke, and among local injuries the cases were of ordinary character.

Among 582 officers embarked there were 33 cases of sickness; among 687 women embarked no death occurred, and among 1,461 children embarked there were 4 deaths, comprising two from bronchitis, one from ague, and one from marasmus.

III.—Troops proceeding from one Station abroad to another.

The number of warrant officers, non-commissioned officers, and men who embarked for transit between one station abroad and another was 6,772, the equivalent annual strength being 256. The number of admissions into hospital was 419, and there were two deaths, being in the annual ratios of 1636·7 and 7·82 per 1,000 respectively. Compared with corresponding ratios in the previous year there is an increase of 240·0 in the admission rate and one of 3·69 in the death rate, and compared with average similar ratios for the preceding ten years the increase in admission rate is as much as 698·0, while the death rate is greater by 2·67.

The admissions in the different groups and orders of diseases are shown in Abstract No. XXXVII.

General Diseases.—*Diseases dependent on Morbid Poisons.—Enteric fever* caused one admission on board H.M.S. "Malabar," between Bombay and Aden, in the month of November. The case terminated fatally, and its origin was not discovered. *Simple continued fever* was the cause of 17 admissions, equal to a ratio of 66·4 per 1,000, as compared with 37·2 in the previous year. There were 13 admissions for *dysentery*, or 50·8 per 1,000, a good deal in excess of the last year's rate. There were 10 cases of *influenza*, all in H.M.S. "Orontes," in the early part of the year.

Malarial fevers caused 11 admissions, or 43·0 per 1,000. as compared with 12·4 in the previous year. Of the cases, one was remittent fever, and the remainder were ague.

Venereal Diseases.—The admissions for *primary syphilis* were 90 in number, being in the annual ratio of 351·5 per 1,000, as compared with 107·4 in the

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previous year. Including simple venereal ulcer, which caused 14 admissions, the annual admission rate for primary venereal sores was 406·2 per 1,000, an increase of 108·7 on the last year's rate. *Secondary syphilis* caused 13 admissions, or 50·8 per 1,000, as compared with 33·1 in the previous year. The admissions for *gonorrhœa* were 96 in number, the annual ratio being 375·0 per 1,000, a decrease of 38·2 from the corresponding rate in 1889. Including all forms of venereal disease, the total annual admission rate was as much as 832·0 per 1,000, more than half the total ratio from all causes, and greater than the corresponding rate in the preceding year by 88·2.

There was one admission for *alcoholism*, and three for *debility*. *Rheumatism* caused 9 admissions, or 35·1 per 1,000, twice that in the previous year. There were 3 admissions for *tubercular diseases* and 6 for non-malignant new growths.

Local Diseases.—*Diseases of the Nervous System* caused 2 admissions, of which one was a case of epilepsy. *Ophthalmic* affections were represented by 4 cases of conjunctivitis, and *aural disease* by one case of inflammation of the external meatus. *Diseases of the circulatory system* caused no admission, but there were 13 cases of respiratory disease, including 9 of bronchitis, 3 of pneumonia, one fatal, and 1 of pleurisy. The admission ratio, 50·8 per 1,000, is higher than in the previous year by 1·2. *Diseases of the digestive system* caused 30 admissions, or 117·2 per 1,000, as compared with 115·7 in the preceding year. Among the cases treated were 4 of hepatic disease.

Diseases of the Lymphatic and Glandular System gave 13 admissions, the ratio, 50·8 per 1,000, showing an increase of 5·3. *Urinary affections* were represented by a single case of nephritis. The admission ratio for *diseases of the generative system* was 109·4 per 1,000, less than half the corresponding rate in the previous year, due chiefly to the lower number of cases of simple venereal ulcer. There were 10 admissions, or 39·1 per 1,000, for *diseases of the connective issue*, and 20 admissions, or 78·2 per 1,000, for *diseases of the skin*, the former being below and the latter rather above the corresponding rate in the previous year.

Injuries.—24 are recorded, equal to an annual ratio of 93·7 per 1,000, as compared with 119·8 in the previous year. None of the cases require special mention.

Among 221 officers embarked there were 3 cases of sickness. The number of women embarked was 226, and of children 426; among the former there was one death from erysipelas, and among the latter one death from dysentery.

IV.—Invalids returning to England.

The number of invalids embarked for England from foreign stations was 2,118, the equivalent annual strength being 153·5. There were 22 deaths of invalids on the voyage home. The sickness and mortality among these invalids are accounted for in the statistical tables of the Commands from which they were invalided.

V.—Sanitary Condition of Ships.

The sanitary condition of the different vessels and troopships, and the accommodation provided for the troops on the various voyages, were generally reported to be satisfactory.

ABSTRACTS I. to XLIII.

ABSTRACT No. I.—TABLE showing the AVERAGE STRENGTH, ADMISSIONS among the TROOPS serving in the UNITED KINGDOM during the Year 1890,

Average Strength in Annual Returns, 100,120. †Average Strength, including Men detached, 101,772. Diseases.	Admissions into Hospital.	Died. With the Regiment.	Died. Absent from the Regiment.	Died. Total.	Invalids Discharged the Service.
I.—GENERAL DISEASES.					
GROUP "A."					
Sub-Group I. Small-pox	—	—	—	—	—
Other Eruptive Fevers	619	4	—	4	—
Enteric Fever	126	29	1	30	—
Other Continued Fevers	417	—	—	—	—
Yellow Fever	—	—	—	—	—
Cholera	—	—	—	—	—
Dysentery	73	2	—	2	4
Other Diseases	6,671	9	—	9	—
Total	7,906	44	1	45	4
Sub-Group II.—Malarial Fevers	698	—	1	1	2
Sub-Group III.—Septic Diseases	227	6	—	6	1
Sub-Group IV. Syphilis, Primary	6,924	—	—	—	4
„ Secondary	3,734	3	—	3	78
Gonorrhœa	8 948	—	—	—	3
Total	19,606	3	—	3	85
Sub-Group V.—Hydrophobia, &c.	—	—	—	—	—
GROUP "B."					
Sub-Group I.—Parasitic Diseases	46	—	—	—	1
Sub-Group II. Scurvy	7	—	—	—	—
Alcoholism	269	3	1	4	—
GROUP "C."					
Debility, &c.	802	—	—	—	103
GROUP "D."					
Rheumatism	3,759	6	—	6	80
Tubercular Diseases	389	90	14	104	215
Other Diseases	484	11	1	12	51
II.—LOCAL DISEASES.					
Diseases of the—					
1. Nervous System Nervous Diseases	802	34	1	35	110
Mental „	132	1	—	1	33
2. Eye	1,178	—	—	—	69
3 & 4. Other Organs of Special Senses	809	2	—	2	84
5. Circulatory System	872	28	7	35	331
6. Respiratory „	7,263	171	10	181	99
7. Digestive „	10,750	24	4	28	95
8. Lymphatic and Glandular System	1,549	—	1	1	5
9. Urinary System	195	13	2	15	21
10. Generative „	3,044	—	—	—	31
11. Organs of Locomotion	779	3	—	3	118
12. Connective Tissue	2,228	1	—	1	6
13. Skin	7,027	—	—	—	22
III.—POISONS	8	2	—	2	1
IV.—INJURIES.					
1. General	13	41	2	43	1
2. Local	10,045	33	2	35	84
3. In Action	—	—	—	—	—
No appreciable disease	272	—	—	—	—
Cause unknown (refers to deaths only)	—	—	—	—	—
General Total	81,159	516	47	563	1,702

* The average ratios for 10 years will be given in future years. The average ratios for years 1886 to 1891 in

† Ratios of deaths and invalids calculated on this strength.

into HOSPITAL, DEATHS, NUMBERS INVALIDED and CONSTANTLY SICK with the Ratios per 1,000 of the Strength, and the Average Ratios for 10 Years.

Average Number constantly Sick.	Ratio per 1,000.				*Average Ratio per 1,000 from 1886 to 1889.			
	Admissions.	Deaths.	Invalids Discharged the Service.	Constantly Sick.	Admissions.	Deaths.	Invalids Discharged the Service.	Constantly Sick.
—	—	—	—	—	·1	—	—	·01
45·41	6·2	·04	—	·45	6·7	·05	—	·39
19·20	1·3	·29	—	·19	1·4	·32	—	·22
16·39	4·2	—	—	·16	6·1	·03	—	·23
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
5·87	·7	·03	·04	·06	·8	·04	·05	·09
147·58	66·6	·09	—	1·48	1·6	·02	—	·05
234·45	79·0	·44	·04	2·34	16·7	·46	·05	·99
24·17	7·0	·01	·02	·24	5·4	—	·01	·19
16·84	2·3	·06	·01	·17	2·4	·06	·01	·14
646·90	69·1	—	·04	6·46	72·3	—	—	6·59
349·13	37·3	·03	·77	3·49	38·1	·06	·78	3·37
597·73	89·4	—	·03	5·97	100·2	—	·04	6·41
1593·76	195·8	·03	·84	15·92	210·6	·06	·83	16·37
—	—	—	—	—	—	—	—	—
1·56	·4	—	·01	·02	·6	·01	—	·02
·21	·1	—	—	—	·1	—	—	·01
8·16	2·7	·04	—	·08	3·1	·04	—	·09
51·44	8·0	—	1·01	·51	7·4	·01	1·10	·53
243·22	37·5	·06	·79	2·43	37·9	·04	·74	2·30
68·19	3·9	1·02	2·11	·68	3·7	1·05	1·66	·58
43·30	4·8	·12	·50	·43	5·3	·11	·36	·40
50·30	8·0	·34	1·06	·50	7·7	·38	1·23	·53
22·70	1·3	·01	·81	·23	1·5	·01	·99	·28
73·20	11·8	—	·68	·73	12·8	—	·72	·75
49·19	8·1	·02	·82	·49	6·8	·01	·58	·39
83·88	8·7	·34	3·25	·84	10·0	·45	3·18	·90
358·30	72·5	1·78	·97	3·58	63·8	1·30	1·06	3·27
315·46	107·4	·28	·93	3·15	98·8	·39	·98	2·99
161·01	15·5	·01	·05	1·61	19·6	·01	·09	2·03
17·50	1·9	·15	·21	·17	2·3	·18	·23	·18
186·51	30·4	—	·30	1·86	47·0	·02	·29	2·92
69·51	7·8	·03	1·16	·70	6·7	·05	·78	·56
98·41	23·3	·01	·06	·98	22·9	·01	·11	1·07
250·53	70·2	—	·22	2·50	80·8	—	·21	2·95
·27	·1	·02	·01	—	·1	·05	—	·01
·53	·1	·42	·01	·01	·2	·38	·01	·01
403·35	160·3	·34	·85	4·03	96·8	·35	·81	3·96
—	—	—	—	—	—	—	—	—
8·73	2·7	—	—	·09	2·8	—	—	·07
—	—	—	—	—	—	—	—	—
4434·69	810·6	5·53	16·72	44·29	773·8	5·45	16·03	44·48

the five years 1886 to 1890 will be given in the Report for 1891; those for the six that for 1892, &c., &c.

ABSTRACT A.—TABLE showing the AVERAGE STRENGTH, ADMISSIONS among the TROOPS stationed in ENGLAND during the Year 1890, with

Diseases. (Average Strength, in Annual Returns, 71,517. † Average Strength, including Men detached, 72,326.)	Admissions into Hospital.	Died. With the Regiment.	Died. Absent from Regiment.	Died. Total.	Invalids Discharged the Service.	Average Number constantly Sick.
I.—GENERAL DISEASES.						
GROUP "A."						
Sub-Group I. Small-pox	—	—	—	—	—	—
Other Eruptive Fevers	565	4	—	4	—	42·50
Enteric Fever	61	12	1	13	—	8·66
Other Continued Fevers	210	—	—	—	—	9·62
Yellow Fever	—	—	—	—	—	—
Cholera	—	—	—	—	—	—
Dysentery	66	1	—	1	4	5·36
Other Diseases	4,919	5	—	5	—	111·63
Total	5,821	23	1	23	4	177·77
Sub-Group II.—Malarial Fevers	635	—	1	1	1	21·83
Sub-Group III.—Septic Diseases	173	4	—	4	1	13·48
Sub-Group IV. Syphilis, Primary	5,399	—	—	—	4	503·17
" Secondary	2,799	3	—	3	56	264·68
Gonorrhœa	6,681	—	—	—	1	437·24
Total	14,879	3	—	3	61	1,205·09
Sub-Group V.—Hydrophobia, &c.	—	—	—	—	—	—
GROUP "B."						
Sub-Group I.—Parasitic Diseases	33	—	—	—	1	1·30
Sub-Group II. Scurvy	3	—	—	—	—	·07
Alcoholism	211	3	1	4	—	6·36
GROUP "C."						
Debility, &c.	582	—	—	—	78	37·75
GROUP "D."						
Rheumatism	2,895	4	—	4	52	137·60
Tubercular Diseases	288	66	11	77	164	52·30
Other Diseases	356	7	1	8	44	32·58
II.—LOCAL DISEASES.						
Diseases of the—						
1. Nervous System (Nervous Diseases)	592	24	—	24	72	37·23
1. Nervous System (Mental ")	83	1	—	1	50	14·58
2. Eye	790	—	—	—	42	48·76
3 & 4. Other Organs of Special Senses	615	2	—	2	63	37·44
5. Circulatory System	594	22	4	26	231	58·87
6. Respiratory "	5,369	137	7	144	67	266·33
7. Digestive "	8,138	19	3	22	68	241·63
8. Lymphatic and Glandular System	1,182	—	1	1	2	123·60
9. Urinary System	131	11	2	13	17	12·12
10. Generative "	2,074	—	—	—	24	129·66
11. Organs of Locomotion	523	2	—	2	87	48·48
12. Connective Tissue	1,535	1	—	1	5	69·78
13. Skin	5,022	—	—	—	15	174·66
III.—POISONS	6	—	—	—	—	·20
IV.—INJURIES.						
1. General	9	25	1	26	1	·42
2. Local	7,150	25	2	27	63	294·06
3. In Action	—	—	—	—	—	—
No appreciable disease	217	—	—	—	—	6·83
Cause unknown (refers to deaths only)	—	—	—	—	—	—
General Total	59,856	378	35	413	1,213	3,302·77

* The average ratios for 10 years will be given in future years. The average ratios for 1886 to 1891 in

† Ratios of deaths and invalids calculated on this strength.

into HOSPITAL, DEATHS, NUMBERS INVALIDED and CONSTANTLY SICK, the Ratios per 1,000 of the Strength, and the Average Ratios for 10 Years.

Ratio per 1,000.				* Average Ratio per 1,000 from 1886 to 1889.			
Admissions.	Deaths.	Invalids Discharged the Service.	Constantly Sick.	Admissions.	Deaths.	Invalids Discharged the Service.	Constantly Sick.
—	—	—	—	·1	·01	—	·01
7·9	·06	—	·59	8·0	·05	—	·47
·9	·18	—	·12	·9	·22	—	·16
2·9	—	—	·13	4·8	·04	—	·19
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
·9	·01	·06	·08	1·0	·05	·05	·11
68·8	·07	—	1·56	1·4	·02	—	·05
81·4	·32	·06	2·48	16·2	·39	·05	·99
8·9	·01	·01	·31	6·6	—	·01	·24
2·4	·06	·01	·19	2·5	·09	—	·15
75·5	—	·06	7·04	76·6	—	—	7·06
39·1	·04	·77	3·70	40·3	·05	·81	3·65
92·7	—	·01	6·11	101·5	—	·05	6·63
207·3	·04	·84	16·85	218·4	·05	·86	17·34
—	—	—	—	—	—	—	—
·5	—	·01	·02	·6	·02	—	·02
—	—	—	—	·1	—	—	·01
3·0	·06	—	·09	3·2	·04	·01	·10
8·1	—	1·08	·53	7·6	·01	1·08	·53
40·5	·06	·72	2·62	40·1	·05	·78	2·45
4·0	1·07	2·27	·73	3·9	1·12	1·75	·60
5·0	·11	·61	·46	5·3	·12	·89	·41
8·3	·33	1·00	·52	8·0	·41	1·30	·56
1·2	·01	·69	·20	1·4	·01	·94	·27
11·0	—	·58	·68	12·9	—	·79	·78
8·6	·03	·87	·52	7·0	·01	·56	·41
8·3	·36	3·19	·82	10·8	·46	3·48	·98
75·1	1·99	·93	3·72	68·0	1·35	1·14	3·45
113·8	·30	·94	3·38	103·5	·43	1·05	3·18
16·5	·01	·03	1·76	20·3	·01	·10	2·14
1·8	·18	·24	·17	2·3	·17	·21	·18
29·0	—	·33	1·81	48·8	·02	·33	3·16
7·3	·03	1·20	·68	6·7	·06	·83	·57
21·5	·01	·07	·98	23·1	·02	·11	1·10
70·2	—	·21	2·44	82·6	—	·20	3·00
·1	—	—	—	·2	·05	—	·01
·1	·36	·01	·01	·2	·35	—	·01
100·0	·37	·87	4·11	95·8	·33	·86	4·01
—	—	—	—	—	—	—	—
3·0	—	—	·10	3·1	—	—	·08
—	—	—	—	—	·01	—	—
836·9	5·71	16·77	46·18	799·2	5·58	16·83	46·73

the five years, 1886 to 1890, will be given in the Report for 1891; those for the six years that for 1892, &c., &c.

ABSTRACT B.—TABLE showing the AVERAGE STRENGTH, ADMISSIONS among the TROOPS stationed in SCOTLAND during the Year 1890, with

Diseases. (Average Strength, in Annual Returns, 3,746. † Average Strength, including Men detached, 3,804.)	Admissions into Hospital.	Died. With the Regiment.	Died. Absent from Regiment.	Died. Total.	Invalids Discharged the Service.	Average Number constantly Sick.
I.—GENERAL DISEASES.						
GROUP "A."						
Sub-Group I. Small-pox	—	—	—	—	—	—
Other Eruptive Fevers	21	—	—	—	—	·93
Enteric Fever	1	2	—	2	—	·02
Other Continued Fevers	36	—	—	—	—	·59
Yellow Fever	—	—	—	—	—	—
Cholera	—	—	—	—	—	—
Dysentery	—	—	—	—	—	—
Other Diseases	97	—	—	—	—	2·01
Total	155	2	—	2	—	3·55
Sub-Group II.—Malarial Fevers	7	—	—	—	—	·17
Sub-Group III.—Septic Diseases	8	—	—	—	—	·31
Sub-Group IV. Syphilis, Primary	76	—	—	—	—	7·37
" Secondary	100	—	—	—	5	7·23
Gonorrhœa	225	—	—	—	1	10·97
Total	401	—	—	—	6	25·57
Sub-Group V.—Hydrophobia, &c.	—	—	—	—	—	—
GROUP "B."						
Sub-Group I.—Parasitic Diseases	6	—	—	—	—	·10
Sub-Group II. Scurvy	1	—	—	—	—	·04
Alcoholism	17	—	—	—	—	·40
GROUP "C."						
Debility, &c.	18	—	—	—	4	·93
GROUP "D."						
Rheumatism	115	—	—	—	10	6·13
Tubercular Diseases	13	4	—	4	6	2·56
Other Diseases	9	—	—	—	1	·58
II.—LOCAL DISEASES.						
Diseases of the—						
1. Nervous System (Nervous Diseases)	34	1	1	2	8	1·66
1. Nervous System (Mental ")	7	—	—	—	4	·98
2. Eye	45	—	—	—	6	2·30
3 & 4. Other Organs of Special Senses	25	—	—	—	5	·97
5. Circulatory System	70	2	—	2	36	5·47
6. Respiratory "	269	4	2	6	7	10·20
7. Digestive "	412	1	—	1	4	8·73
8. Lymphatic and Glandular System	24	—	—	—	1	1·03
9. Urinary System	12	—	—	—	1	·60
10. Generative "	137	—	—	—	—	7·23
11. Organs of Locomotion	50	—	—	—	6	2·44
12. Connective Tissue	144	—	—	—	—	3·99
13. Skin	279	—	—	—	1	8·35
III.—POISONS	—	1	—	1	—	—
IV.—INJURIES.						
1. General	3	2	—	2	—	·10
2. Local	423	3	—	3	6	15·14
3. In Action	—	—	—	—	—	—
No appreciable disease	12	—	—	—	—	·15
Cause unknown (refers to deaths only)	—	—	—	—	—	—
General Total	2,696	20	3	23	112	109·66

* The average ratios for 10 years will be given in future years. The average ratios years 1886 to 1891 in

† Ratios of deaths and invalids calculated on this strength.

into HOSPITAL, DEATHS, NUMBERS INVALIDED and CONSTANTLY SICK, the Ratios per 1,000 of the Strength, and the Average Ratios for 10 Years.

Ratio per 1,000.				*Average Ratio per 1,000 rom 1886 to 1889.			
Admissions.	Deaths.	Invalids Discharged the Service.	Constantly Sick.	Admissions.	Deaths.	Invalids Discharged the Service.	Constantly Sick.
—	—	—	—	—	—	—	—
5·6	—	—	·25	5·8	—	—	·31
·3	·53	—	—	1·0	·14	—	·15
9·6	—	—	·16	7·4	—	—	·19
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	·2	—	·07	·01
25·9	—	—	·54	4·9	·07	—	·12
41·4	·53	—	·95	19·3	·21	·07	·78
1·9	—	—	·05	2·3	—	—	·05
2·1	—	—	·08	3·9	·14	—	·19
20·3	—	—	1·97	38·0	—	—	3·00
26·7	—	1·32	1·93	36·6	·07	1·02	2·63
60·0	—	·26	2·93	78·2	—	·07	• 3·72
107·0	—	1·58	6·83	152·8	·07	1·09	9·35
—	—	—	—	—	—	—	—
1·6	—	—	·03	·7	—	—	·01
·3	—	—	·01	·2	—	—	—
4·5	—	—	·11	4·4	—	—	·09
4·8	—	1·05	·25	4·3	—	1·16	·37
30·7	—	2·63	1·64	28·8	—	1·23	1·69
3·5	1·05	1·58	·68	3·2	·75	1·30	·41
2·4	—	·26	·15	4·1	·20	·27	·18
9·1	·53	2·10	·44	5·6	·20	·75	·39
1·9	—	1·05	·26	2·3	—	·89	·32
12·0	—	1·58	·61	10·5	—	·89	·55
6·7	—	1·32	·26	6·0	—	·82	·30
18·7	·53	9·46	1·46	8·8	·55	3·35	·77
71·8	1·58	1·84	2·72	58·7	1·92	2·33	3·20
110·0	·26	1·05	2·33	89·3	·34	1·92	2·40
6·4	—	·26	·27	11·0	—	—	·81
3·2	—	·26	·16	2·4	·34	·20	·21
36·6	—	—	1·93	44·2	·07	·27	2·39
13·3	—	1·58	·65	7·2	—	·68	·48
38·4	—	—	1·06	21·6	—	·27	·82
74·5	—	·26	2·23	83·7	—	·20	2·79
—	·26	—	—	·2	·14	—	—
·8	·53	—	·03	·5	·55	·14	·05
112·9	·79	1·58	4·04	99·6	·48	·96	3·41
—	—	—	—	—	—	—	—
3·2	—	—	·04	2·9	—	—	·07
—	—	—	—	—	—	—	—
719·7	6·05	29·44	29·27	678·5	5·95	18·81	32·08

for the five years 1886 to 1890 will be given in the Report for 1891; those for the six that for 1892, &c., &c.

ABSTRACT C.—TABLE showing the AVERAGE STRENGTH, ADMISSIONS among the TROOPS stationed in IRELAND during the Year 1890, with

Average Strength in Annual Returns, 24,857. †Average Strength, including Men detached, 25,642. Diseases.	Admissions into Hospital.	Died. With the Regiment.	Died. Absent from Regiment.	Died. Total.	Invalids discharged the Service.	Average Number constantly Sick.
I.—GENERAL DISEASES.						
GROUP "A."						
Sub-Group I. Small-pox	—	—	—	—	—	—
Other Eruptive Fevers	33	—	—	—	—	1·98
Enteric Fever	64	15	—	15	—	10·52
Other Continued Fevers	171	—	—	—	—	6·18
Yellow Fever	—	—	—	—	—	—
Cholera	—	—	—	—	—	—
Dysentery	7	1	—	1	—	·51
Other Diseases	1,655	4	—	4	—	33·94
Total	1,930	20	—	20	—	53·13
Sub-Group II.—Malarial Fevers	56	—	—	—	1	2·17
Sub-Group III.—Septic Diseases	46	2	—	2	—	3·05
Sub-Group IV. Syphilis, Primary	1,449	—	—	—	—	136·36
„ Secondary	835	—	—	—	17	77·22
Gonorrhœa	2,092	—	—	—	1	149·52
Total	4,376	—	—	—	18	363·10
Sub-Group V.—Hydrophobia, &c.	—	—	—	—	—	—
GROUP "B."						
Sub-Group I.—Parasitic Diseases	7	—	—	—	—	·16
Sub-Group II. Scurvy	3	—	—	—	—	·10
Alcoholism	41	—	—	—	—	1·40
GROUP "C."						
Debility, &c.	202	—	—	—	21	13·77
GROUP "D."						
Rheumatism	749	2	—	2	18	49·49
Tubercular Diseases	88	20	3	23	45	13·33
Other Diseases	119	4	—	4	6	10·14
II.—LOCAL DISEASES.						
Diseases of the—						
1. Nervous System Nervous Diseases	176	9	—	9	30	11·42
Mental „	42	—	—	—	29	7·14
2. Eye	343	—	—	—	21	22·14
3 & 4. Other Organs of Special Senses	169	—	—	—	16	10·78
5. Circulatory System	208	4	3	7	64	19·54
6. Respiratory „	1,625	30	1	31	25	81·77
7. Digestive „	2,200	4	1	5	23	65·12
8. Lymphatic and Glandular System	343	—	—	—	2	34·38
9. Urinary System	52	2	—	2	3	4·78
10. Generative „	833	—	—	—	7	49·63
11. Organs of Locomotion	206	1	—	1	25	18·59
12. Connective Tissue	549	—	—	—	1	24·64
13. Skin	1,726	—	—	—	6	67·52
III.—POISONS	2	1	—	1	1	·07
IV.—INJURIES.						
1. General	1	14	1	15	—	—
2. Local	2,472	5	—	5	15	94·15
3. In Action	—	—	—	—	—	—
No appreciable disease	43	—	—	—	—	1·75
Cause unknown (refers to deaths only)	—	—	—	—	—	—
General Total	18,607	118	9	127	377	1022·26

* The average ratios for 10 years will be given in future years. The average ratios for 1886 to 1891 in

† Ratios of death and invalids calculated on this strength.

into HOSPITAL, DEATHS, NUMBERS INVALIDED and CONSTANTLY SICK the Ratios per 1,000 of the Strength, and the Average Ratios for 10 Years.

Ratio per 1,000.				*Average Ratio per 1,000 from 1886 to 1889.			
Admissions.	Deaths.	Invalids Discharged the Service.	Constantly Sick.	Admissions.	Deaths.	Invalids Discharged the Service.	Constantly Sick.
—	—	—	—	—	—	—	—
1·3	—	—	·08	3·5	·03	—	·20
2·6	·58	—	·42	2·7	·62	—	·40
6·9	—	—	·25	9·7	·01	—	·33
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
·3	·04	—	·02	·3	·03	·05	·03
66·6	·16	—	1·36	1·5	—	—	·05
77·7	·78	—	2·13	17·7	·69	·05	1·01
2·3	—	·04	·09	2·6	·01	·01	·08
1·9	·08	—	·12	1·9	·03	·02	·09
58·3	—	—	5·48	65·4	—	—	5·81
35·6	—	·66	3·11	32·2	·07	·66	2·69
84·1	—	·04	6·01	99·4	—	·03	6·17
176·0	—	·70	14·60	197·0	·07	·69	14·67
—	—	—	—	—	—	—	—
·3	—	—	·01	·5	—	—	·01
·1	—	—	—	·2	—	—	·01
1·6	—	—	·06	2·9	·03	—	·06
8·1	—	·83	·51	7·2	·08	1·14	·51
30·1	·08	·70	1·99	33·0	·01	·54	1·99
3·5	·90	1·75	·54	3·3	·93	1·47	·54
4·8	·16	·23	·41	5·5	·07	·30	·38
7·1	·35	1·17	·46	7·0	·34	1·10	·48
1·7	—	1·13	·29	1·9	·03	1·13	·32
13·8	—	·86	·89	12·5	—	·49	·72
6·8	—	·62	·43	6·3	·01	·59	·34
8·4	·27	2·50	·79	8·0	·40	2·32	·71
65·4	1·21	·98	3·29	53·8	1·07	·74	2·78
88·5	·19	·90	2·62	87·2	·28	·68	2·56
13·8	—	·08	1·38	18·8	—	·07	1·90
2·1	·08	·12	·19	2·0	·16	·24	·15
33·5	—	·27	2·00	42·5	·03	·17	2·33
8·3	·04	·98	·75	6·8	·03	·68	·53
22·1	—	·04	·99	22·3	—	·99	1·00
69·4	—	·25	2·72	75·5	—	·22	2·82
·1	·04	·04	—	·1	·03	·01	—
—	·58	—	—	·1	·42	·03	·01
99·4	·19	·58	3·7	99·0	·36	·64	3·89
—	—	—	—	—	—	·01	—
1·7	—	—	·07	2·0	—	—	·06
—	—	—	—	—	—	—	—
748·5	4·95	14·70	41·12	716·6	5·03	13·42	39·97

the five years, 1886 to 1890, will be given in the Report for 1891; those for the six years that for 1892, &c., &c.

ABSTRACT D.—TABLE showing the AVERAGE STRENGTH, SICKNESS, UNITED KINGDOM in 1890, with

Average Strength.	Officers, 3,963.			
Diseases.	Attacks of Illness.	Deaths.	Ratios per 1,000. Attacks.	Ratios per 1,000. Deaths.
I.—GENERAL DISEASES.				
GROUP "A."				
Sub-Group I. Small-pox	—	—	—	—
Other Eruptive Fevers	3	—	·8	—
Enteric Fever	16	1	4·0	·25
Other Continued Fevers	47	—	11·9	—
Yellow Fever	—	—	—	—
Cholera	—	—	—	—
Dysentery	6	—	1·5	—
Other Diseases	315	—	79·4	—
Total	387	1	97·6	·25
Sub-Group II.—Malarial Fevers	52	—	13·2	—
Sub-Group III.—Septic Diseases	3	—	·8	—
Sub-Group IV. Syphilis, Primary	5	—	1·3	—
„ Secondary	5	—	1·3	—
Gonorrhœa	24	—	6·0	—
Total	34	—	8·6	—
Sub-Group V.—Hydrophobia, &c.	—	—	—	—
GROUP "B."				
Sub-Group I.—Parasitic Diseases	—	—	—	—
Sub-Group II. Scurvy	—	—	—	—
Alcoholism	2	1	·5	·25
GROUP "C."				
Debility, &c.	20	—	5·0	—
GROUP "D."				
Rheumatism	86	—	21·7	—
Tubercular Diseases	1	—	·2	—
Other Diseases	4	2	1·0	·51
II.—LOCAL DISEASES.				
Diseases of the—				
1. Nervous System { Nervous Diseases	26	1	6·6	·25
{ Mental „	3	—	·8	—
2. Eye	12	—	3·0	—
3 & 4. Other Organs of Special Senses	7	—	1·8	—
5. Circulatory System	9	3	2·3	·76
6. Respiratory „	268	3	67·6	·76
7. Digestive „	235	1	59·3	·25
8. Lymphatic and Glandular System	22	1	5·6	·25
9. Urinary System	15	1	3·8	·25
10. Generative „	20	—	5·0	—
11. Organs of Locomotion	31	—	7·8	—
12. Connective Tissue	35	1	8·8	·25
13. Skin	49	—	12·4	—
III.—POISONS	—	—	—	—
IV.—INJURIES.				
1. General	—	2	—	·51
2. Local	231	5	58·3	1·26
3. In Action	—	—	—	—
No appreciable disease	1	—	·2	·25
Cause unknown (refers to deaths only)	—	1	—	—
General Total	1,553	23	391·9	5·80

and MORTALITY among the OFFICERS, WOMEN, and CHILDREN in the the Ratios per 1,000 of Strength.

Women, 10,591.				Children, 21,371.			
Attacks of Illness.	Deaths.	Ratios per 1,000.		Attacks of Illness.	Deaths.	Ratios per 1,000.	
		Attacks.	Deaths.			Attacks.	Deaths.
—	—	—	—	—	—	—	—
22	—	2·1	—	2,014	50	94·3	2·34
4	2	·4	·19	7	1	·3	·05
24	—	2·2	—	109	—	5·1	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
4	—	·4	—	18	3	·8	·14
559	—	52·8	—	1,275	26	59·7	1·21
613	2	57·9	·19	3,423	80	160·2	3·74
29	—	2·7	—	29	1	1·4	·05
30	2	2·8	·19	14	—	·7	—
—	—	—	—	—	—	—	—
21	—	2·0	—	29	2	1·4	·09
—	—	—	—	—	—	—	—
21	—	2·0	—	29	2	1·4	·09
—	—	—	—	—	—	—	—
7	—	·7	—	73	—	3·4	—
—	—	—	—	1	—	—	—
1	—	·1	—	—	—	—	—
656	1	61·9	·09	454	54	21·2	2·53
209	—	19·7	—	33	—	1·5	—
52	14	4·9	1·32	40	18	1·9	·84
90	1	8·5	·09	91	8	4·3	·37
187	5	17·7	·47	224	84	10·5	3·93
6	—	·6	—	—	—	—	—
33	—	3·1	—	184	—	8·6	—
13	—	1·2	—	61	1	2·8	·05
82	7	7·7	·66	12	2	·6	·09
703	18	66·4	1·70	3,206	165	150·0	7·73
803	7	75·8	·66	1,776	56	83·1	2·62
28	—	2·6	—	108	—	5·0	—
25	—	2·4	·38	22	3	1·0	·14
468	4	44·2	—	12	—	·6	—
19	—	1·8	—	24	2	1·1	·09
83	—	7·8	—	153	1	7·2	·05
110	—	10·4	—	511	1	23·9	·05
1	—	·1	—	5	—	·2	—
1	—	·1	—	10	11	·5	·51
79	—	7·5	—	419	4	19·6	·19
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
4,349	61	410·6	5·76	10,914	493	510·7	23·07

ABSTRACT No. II.—TABLE showing the AVERAGE STRENGTH, ADMISSIONS the TROOPS stationed at GIBRALTAR during the Year 1890, with the Ratios

Average Strength, 4,659. Diseases.	Admissions into Hospital.	Deaths: In the Command.	Deaths: Of Invalids.	Deaths: Total.	Invalids: Number sent Home.	Invalids: Number finally Discharged the Service.	Average Number constantly Sick.
I.—GENERAL DISEASES.							
GROUP "A."							
Sub-Group I. Small-pox	—	—	—	—	—	—	—
Other Eruptive Fevers	2	—	—	—	—	—	·15
Enteric Fever	20	4	—	4	8	—	5·21
Other Continued Fevers	142	2	—	2	6	1	12·43
Yellow Fever	—	—	—	—	—	—	—
Cholera	—	—	—	—	—	—	—
Dysentery	3	—	—	—	—	—	·12
Other Diseases	733	—	—	—	—	—	11·43
Total	906	6	—	6	14	1	29·34
Sub-Group II.—Malarial Fevers	2	—	—	—	—	—	·02
Sub-Group III.—Septic Diseases	7	1	—	1	—	—	·30
Sub-Group IV. Syphilis, Primary	249	—	—	—	—	—	22·92
„ Secondary	86	—	—	—	1	2	8·72
Gonorrhœa	404	—	—	—	—	—	23·32
Total	739	—	—	—	1	2	54·96
Sub-Group V.—Hydrophobia, &c.	—	—	—	—	—	—	—
GROUP "B."							
Sub-Group I.—Parasitic Diseases	6	—	—	—	—	—	·14
Sub-Group II. Scurvy	—	—	—	—	—	—	—
Alcoholism	15	—	—	—	—	—	·51
GROUP "C."							
Debility, &c.	39	—	—	—	3	9	2·61
GROUP "D."							
Rheumatism	155	—	—	—	9	3	9·57
Tubercular Diseases	5	1	—	1	2	4	·40
Other Diseases	10	—	—	—	3	1	1·25
II.—LOCAL DISEASES.							
Diseases of the—							
1. Nervous System Nervous Diseases	31	—	—	—	2	2	2·22
„ Mental „	2	—	—	—	2	2	1·30
2. Eye	56	—	—	—	2	2	4·34
3 & 4. Other Organs of Special Senses	19	—	—	—	1	1	·96
5. Circulatory System	12	—	—	—	3	4	1·45
6. Respiratory „	105	3	—	3	5	3	7·11
7. Digestive „	342	1	—	1	—	1	11·74
8. Lymphatic and Glandular System	45	—	—	—	2	3	4·75
9. Urinary System	1	—	—	—	—	1	·31
10. Generative „	315	—	—	—	—	—	19·05
11. Organs of Locomotion	37	—	—	—	4	3	4·36
12. Connective Tissue	102	—	—	—	1	—	5·29
13. Skin	185	—	—	—	—	1	7·76
III.—POISONS	1	—	—	—	—	—	·01
IV.—INJURIES.							
1. General	1	—	—	—	—	—	·17
2. Local	377	3	—	3	2	3	16·68
3. In Action	—	—	—	—	—	—	—
No appreciable disease	11	—	—	—	—	—	·68
Cause unknown (refers to deaths only)	—	—	—	—	—	—	—
General Total	3,524	15	—	15	56	46	187·27
* Average of 10 years, 1880–89	—	—	—	—	—	—	—

† The average ratios for 10 years will be given in future years. The average ratios for the five 1886 to 1891 in

into HOSPITAL, DEATHS, NUMBERS INVALIDED and CONSTANTLY SICK among per 1,000 of the Strength, and the Average Ratios for 10 Years.*

Ratio per 1,000.					Average Ratio per 1,000 from 1886 to 1889.†				
Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.	Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.
—	—	—	—	—	·1	—	—	—	—
·4	—	—	—	·03	·6	—	—	—	·04
5·6	·86	1·73	—	1·12	16·8	2·66	6·13	—	2·91
30·5	·43	1·29	·21	2·67	29·6	—	5·38	—	4·01
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
·6	—	—	—	·03	·4	·05	—	—	·03
157·3	—	—	—	2·45	·2	·05	—	—	·01
194·5	1·29	3·01	·21	6·30	47·7	2·77	11·51	—	7·00
·4	—	—	—	—	1·9	·05	·11	·11	·07
1·5	·21	—	—	·06	·5	·05	—	—	·03
53·4	—	—	—	4·92	32·2	—	—	—	3·13
18·5	—	·21	·43	1·87	34·0	·16	1·03	·33	2·68
86·7	—	—	—	5·01	111·5	—	—	—	6·38
158·6	—	·21	·43	11·80	177·7	·16	1·03	·33	12·18
—	—	—	—	—	—	—	—	—	—
1·3	—	—	—	·03	·2	—	—	—	—
—	—	—	—	—	—	—	—	—	—
3·2	—	—	—	·11	5·8	·05	—	—	·13
8·4	—	·64	1·93	·56	4·1	—	2·01	1·09	·30
33·3	—	1·93	·64	2·05	34·2	—	1·73	·43	2·09
·6	·21	·43	·86	·06	2·6	·48	1·95	·92	·37
2·1	—	·64	·21	·27	1·7	·27	·27	·22	·15
6·7	—	·43	·43	·48	2·4	·22	·49	·60	·15
·4	—	·43	·43	·28	·5	—	·54	·49	·11
12·0	—	·43	·43	·93	11·6	—	·33	·49	·65
4·1	—	·21	·21	·20	5·9	—	·27	·27	·29
2·6	—	·64	·86	·31	1·1	·33	·60	·76	·13
22·5	·64	1·07	·64	1·53	27·0	·54	·76	·60	1·27
73·4	·21	—	·21	2·52	78·7	·22	·33	·11	1·80
9·7	—	·43	·64	1·02	8·8	—	—	—	·92
·2	—	—	·21	·07	1·1	·33	·33	·11	·13
67·6	—	—	—	4·09	104·4	·05	—	·05	6·90
7·9	—	·86	·64	·93	2·0	·05	·33	·16	·18
21·9	—	·21	—	1·14	14·7	—	·05	·11	·71
39·7	—	—	·21	1·67	34·5	—	—	·05	·94
·2	—	—	—	—	·1	·05	—	—	—
·2	—	—	—	·04	·1	·16	—	—	—
80·9	·64	·43	·64	3·58	105·0	·38	·33	·27	4·03
—	—	—	—	—	—	—	—	—	—
2·4	—	—	—	·14	2·8	—	—	—	·07
—	—	—	—	—	—	—	—	—	—
756·3	3·22	12·02	9·87	40·19	677·1	6·13	22·97	7·17	40·60
798·8	6·13	25·27	9·78	48·51	—	—	—	—	—

years 1886 to 1890 will be given in the Report for 1891; those for the six years that for 1892, &c., &c.

ABSTRACT No. III.—TABLE showing the AVERAGE STRENGTH, ADMISSIONS the TROOPS stationed at MALTA during the Year 1890, with the Ratios

Average Strength, 7,055. Diseases.	Admissions into Hospital.	Deaths. In the Command.	Deaths. Of Invalids.	Deaths. Total.	Invalids. Number sent Home.	Invalids. Number finally Discharged the Service.	Average Number Constantly Sick.
I.—GENERAL DISEASES.							
GROUP "A."							
Sub-Group I. Small-pox	—	—	—	—	—	—	—
Other Eruptive Fevers	2	—	—	—	—	—	·09
Enteric Fever	60	20	—	20	9	—	10·49
Other Continued Fevers	603	9	—	9	24	2	48·34
Yellow Fever	—	—	—	—	—	—	—
Cholera	—	—	—	—	—	—	—
Dysentery	33	—	—	—	1	—	3·97
Other Diseases	183	1	—	1	1	—	4·65
Total	881	30	—	30	35	2	67·54
Sub-Group II.—Malarial Fevers	4	—	—	—	—	—	·11
Sub-Group III.—Septic Diseases	13	1	—	1	—	—	·77
Sub-Group IV. Syphilis, Primary	51	—	—	—	—	—	6·49
" Secondary	73	—	1	1	6	3	8·20
Gonorrhœa	419	—	—	—	3	—	32·61
Total	542	—	1	1	9	3	47·30
Sub-Group V.—Hydrophobia, &c.	—	—	—	—	—	—	—
GROUP "B."							
Sub-Group I.—Parasitic Diseases	7	—	—	—	—	—	·19
Sub-Group II. Scurvy	—	—	—	—	—	—	—
Alcoholism	16	—	—	—	—	—	·37
GROUP "C."							
Debility, &c.	50	—	—	—	8	9	5·84
GROUP "D."							
Rheumatism	224	1	—	1	9	6	14·33
Tubercular Diseases	25	4	7	11	15	10	2·88
Other Diseases	32	—	—	—	—	2	1·98
II.—LOCAL DISEASES.							
Diseases of the—							
1. Nervous System Nervous Diseases	58	1	—	1	4	3	4·10
" Mental "	13	—	—	—	9	5	1·68
2. Eye	55	—	—	—	7	5	4·53
3 & 4. Other Organs of Special Senses	80	—	—	—	9	10	5·49
5. Circulatory System	60	2	1	3	11	11	4·64
6. Respiratory "	165	—	—	—	10	5	11·73
7. Digestive "	595	7	—	7	2	2	20·03
8. Lymphatic and Glandular System	38	—	—	—	1	—	3·45
9. Urinary System	24	—	—	—	9	6	1·8 6
10. Generative "	299	—	—	—	7	5	22·08
11. Organs of Locomotion	53	—	—	—	5	4	4·19
12. Connective Tissue	142	—	—	—	—	—	5·31
13. Skin	220	—	—	—	2	—	11·24
III.—POISONS.	1	—	—	—	—	—	·01
IV.—INJURIES.							
1. General	4	10	—	10	—	—	·09
2. Local	535	4	—	4	8	7	27·53
3. In Action	—	—	—	—	—	—	—
No appreciable disease	15	—	—	—	—	—	·81
Cause unknown (refers to deaths only)	—	—	—	—	—	—	—
General Total	4,151	60	9	69	160	95	270·13
*Average of 10 years, 1880–89	—	—	—	—	—	—	—

† The average ratios for 10 years will be given in future years. The average ratios 1886 to 1891 in

into HOSPITAL, DEATHS, NUMBERS INVALIDED and CONSTANTLY SICK among per 1,000 of the Strength, and the Average Ratios for 10 Years.*

Ratio per 1,000.					Average Ratio per 1,000 from 1886 to 1889.†				
Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.	Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.
—	—	—	—	—	·1	—	—	—	·01
·3	—	—	—	·01	·4	—	—	—	·02
8·5	2·83	1·28	—	1·49	3·6	1·39	·26	—	·85
85·5	1·28	3·40	·28	6·85	99·4	·95	2·64	·13	8·72
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	·04	—	—	—
4·7	—	·14	—	·50	5·6	·43	·13	·04	·41
25·9	·14	·14	—	·66	·3	·04	—	—	·01
124·9	4·25	4·96	·28	9·57	109·5	2·86	3·03	·17	0·02
·6	—	—	—	·02	2·4	·35	·13	—	·24
1·8	·14	—	—	·11	·2	—	—	—	·02
7·2	—	—	—	·92	14·8	—	—	—	1·39
10·2	·14	·85	·42	1·16	12·1	—	·35	·17	1·06
59·4	—	·42	—	4·62	49·4	—	—	—	3·29
76·8	·14	1·28	·42	6·70	76·3	—	·35	·17	5·74
—	—	—	—	—	—	—	—	—	—
1·0	—	—	—	·03	1·7	—	—	·04	·04
—	—	—	—	—	—	—	—	—	—
2·3	—	—	—	·05	2·7	·04	·04	—	·10
7·1	—	1·13	1·28	·83	14·5	—	1·21	·61	1·34
31·8	·14	1·28	·85	2·04	26·8	·04	·78	·48	1·97
3·6	1·56	2·12	1·42	·41	2·2	·61	1·65	1·39	·44
4·5	—	—	·28	·28	3·0	·04	·13	·17	·19
8·2	·14	·57	·42	·58	4·9	·22	·82	·95	·32
1·8	—	1·28	·71	·24	1·3	·13	1·17	1·30	·30
7·8	—	·99	·71	·64	11·7	—	·43	·26	·63
11·3	—	1·28	1·42	·78	9·6	—	·52	·26	·50
8·5	·42	1·56	1·56	·66	8·7	·17	1·51	1·47	·78
23·4	—	1·42	·71	1·66	21·0	·61	1·56	·87	1·85
84·3	·99	·28	·28	2·84	87·8	·52	·65	·17	3·07
5·4	—	·14	—	·49	5·7	—	·13	·04	·53
3·4	—	1·28	·85	·26	1·9	—	·30	·09	·15
42·4	—	·99	·71	3·13	31·1	—	·39	·26	2·17
7·5	—	·71	·57	·59	5·6	·04	·22	·17	·46
20·1	—	—	—	·75	28·2	·04	·13	·04	1·08
31·2	—	·28	—	1·59	39·3	—	·26	·04	1·85
·1	—	—	—	—	·1	·09	—	—	—
·6	1·42	—	—	·01	·4	·43	·04	—	·04
75·8	·57	1·13	·99	3·90	86·4	·30	·48	·30	3·75
—	—	—	—	—	—	—	—	—	—
2·1	—	—	—	·12	1·4	—	—	—	·05
—	—	—	—	—	—	—	—	—	—
588·3	9·77	22·68	13·46	38·28	584·4	6·49	15·93	9·26	37·63
729·1	8·68.	21·88	11·37	46·58	—	—	—	—	—

for the five years 1886 to 1890 will be given in the Report for 1891; those for the six years that for 1892, &c., &c.

ABSTRACT No. IIIa.—Table showing the Average Strength, Admissions into Hospital, Deaths, Invalids, and Average Number Constantly Sick among the Royal Malta Artillery stationed at Malta during the Ratios for 10 Years.*

Average Strength, 365. Diseases.	Admissions into Hospital.	Deaths. In the Command.	Deaths. Of Invalids.	Deaths. Total.	Invalids. Number sent Home.	Invalids. Number finally Discharged the Service.	Average Number Constantly Sick.
I.—GENERAL DISEASES.							
Group "A."							
Sub-Group I. Small-pox	—	—	—	—	—	—	—
Other Eruptive Fevers	—	—	—	—	—	—	—
Enteric Fever	—	—	—	—	—	—	—
Other Continued Fevers	15	—	—	—	—	—	·43
Yellow Fever	—	—	—	—	—	—	—
Cholera	—	—	—	—	—	—	—
Dysentery	—	—	—	—	—	—	—
Other Diseases	20	—	—	—	—	—	·46
Total	35	—	—	—	—	—	·89
Sub-Group II.—Malarial Fevers	2	—	—	—	—	—	·03
Sub-Group III.—Septic Diseases	1	—	—	—	—	—	·02
Sub-Group IV. Syphilis, Primary	4	—	—	—	—	—	·23
„ Secondary	4	—	—	—	—	—	·25
Gonorrhœa	21	—	—	—	—	—	2·09
Total	29	—	—	—	—	—	2·57
Sub-Group V.—Hydrophobia, &c.	—	—	—	—	—	—	—
Group "B."							
Sub-Group I.—Parasitic Disease	—	—	—	—	—	—	—
Sub-Group II. Scurvy	—	—	—	—	—	—	—
Alcoholism	—	—	—	—	—	—	—
Group "C."							
Debility, &c.	5	—	—	—	—	2	·63
Group "D."							
Rheumatism	6	—	—	—	—	—	·23
Tubercular Diseases	—	—	—	—	—	1	·19
Other Diseases	1	—	—	—	—	—	·01
II.—LOCAL DISEASES.							
Diseases of the—							
1. Nervous System Nervous Diseases	5	—	—	—	—	1	·18
Mental „	—	—	—	—	—	—	—
2. Eye	9	—	—	—	—	—	·21
3 & 4. Other Organs of Special Senses	2	—	—	—	—	—	·05
5. Circulatory System	1	1	—	1	—	—	·28
6. Respiratory „	28	—	—	—	—	—	1·16
7. Digestive „	26	—	—	—	—	—	·55
8. Lymphatic and Glandular System	—	—	—	—	—	—	—
9. Urinary System	—	—	—	—	—	1	—
10. Generative „	—	—	—	—	—	—	—
11. Organs of Locomotion	1	—	—	—	—	—	·05
12. Connective Tissue	2	—	—	—	—	—	·04
13. Skin	22	—	—	—	—	—	·75
III.—POISONS.							
IV.—INJURIES.							
1. General	—	—	—	—	—	—	—
2. Local	42	—	—	—	—	1	1·53
3. In Action	—	—	—	—	—	—	—
No appreciable disease	—	—	—	—	—	—	—
Cause unknown (refers to deaths only)	—	—	—	—	—	—	—
General Total	217	1	—	1	—	6	9·37
* Average of 10 years, 1880–89	—	—	—	—	—	—	—

† The average ratios for 10 years will be given in future years. The average ratios 1886 to 1891 in

SIONS into HOSPITAL, DEATHS, NUMBERS INVALIDED and CONSTANTLY SICK the Year 1890, with the Ratios per 1,000 of the Strength and the average

Ratio per 1,000.					Average Ratio per 1,000 from 1886 to 1889.†				
Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.	Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	1·4	·69	—	—	·06
—	—	—	—	—	·7	—	—	—	·01
41·1	—	—	—	1·18	69·8	—	—	—	2·85
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	·7	·69	—	—	—
—	—	—	—	—	—	—	—	—	—
54·8	—	—	—	1·26	6·2	—	—	—	·13
95·9	—	—	—	2·44	78·8	1·38	—	—	3·05
5·5	—	—	—	·08	1·4	—	—	—	·03
2·7	—	—	—	·05	—	—	—	—	—
11·0	—	—	—	·63	11·7	—	—	—	·96
11·0	—	—	—	·68	7·6	—	—	·69	·90
57·5	—	—	—	5·73	30·4	—	—	·69	2·39
79·5	—	—	—	7·04	49·7	—	—	1·38	4·25
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
13·7	—	—	5·48	1·73	15·2	—	—	4·15	·86
16·4	—	—	—	·63	26·3	—	—	—	1·04
—	—	—	2·74	·52	1·4	—	—	·69	·44
2·7	—	—	—	·03	7·6	—	—	·69	·48
13·7	—	—	2·74	·49	4·1	—	—	—	·07
—	—	—	—	—	—	—	—	—	—
24·7	—	—	—	·57	24·9	—	—	1·38	1·21
5·5	—	—	—	·14	8·3	—	—	·69	·23
2·7	2·74	—	—	·77	4·8	—	—	2·07	·46
76·7	—	—	—	3·18	67·7	—	—	1·38	3·48
71·2	—	—	2·74	1·51	104·4	—	—	·69	2·18
—	—	—	—	—	4·1	—	—	—	·12
—	—	—	—	—	2·1	—	—	—	·13
—	—	—	—	—	6·9	—	—	—	·14
2·7	—	—	—	·14	9·0	—	—	2·77	·55
5·5	—	—	—	·11	18·7	—	—	—	·42
60·3	—	—	—	2·05	70·5	—	—	—	1·91
—	—	—	—	—	—	—	—	—	—
115·1	—	—	2·74	4·19	143·0	·69	—	·69	4·18
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	·7	—	—	—	·03
—	—	—	—	—	—	—	—	—	—
594·5	2·74	—	16·44	25·67	649·6	2·07	—	16·59	25·25
657·3	4·57	—	17·43	24·50	—	—	—	—	—

for the five years 1886 to 1890 will be given in the Report for 1891; those for the six years that for 1892, &c., &c.

ABSTRACT No. IV.—TABLE showing the AVERAGE STRENGTH, ADMISSIONS the TROOPS stationed at CYPRUS during the Year 1890, with the Ratios

Average Strength, 508. Diseases.	Admissions into Hospital.	Deaths. In the Command.	Deaths. Of Invalids.	Deaths. Total.	Invalids. Number sent Home.	Invalids. Number finally Discharged the Service.	Average Number Constantly Sick.
I.—GENERAL DISEASES.							
GROUP "A."							
Sub-Group I. Small-pox	—	—	—	—	—	—	—
Other Eruptive Fevers	—	—	—	—	—	—	—
Enteric Fever	2	1	—	1	—	—	·21
Other Continued Fevers	28	—	—	—	—	—	·79
Yellow Fever	—	—	—	—	—	—	—
Cholera	—	—	—	—	—	—	—
Dysentery	—	—	—	—	—	—	—
Other Diseases	29	—	—	—	—	—	·66
Total	59	1	—	1	—	—	1·66
Sub-Group II.—Malarial Fevers	14	—	—	—	—	—	·61
Sub-Group III.—Septic Diseases	—	—	—	—	—	—	—
Sub-Group IV. Syphilis, Primary	21	—	—	—	—	—	2·30
" Secondary	17	—	—	—	—	—	1·79
Gonorrhœa	38	—	—	—	—	—	2·29
Total	76	—	—	—	—	—	6·38
Sub-Group V.—Hydrophobia, &c.	—	—	—	—	—	—	—
GROUP "B."							
Sub-Group I.—Parasitic Diseases	—	—	—	—	—	—	—
Sub-Group II. Scurvy	—	—	—	—	—	—	—
Alcoholism	3	1	—	1	—	—	·08
GROUP "C."							
Debility, &c.	6	—	—	—	2	—	·34
GROUP "D."							
Rheumatism	9	—	—	—	—	—	·46
Tubercular Diseases	—	—	—	—	—	—	—
Other Diseases	—	—	—	—	—	—	·10
II.—LOCAL DISEASES.							
Diseases of the—							
1. Nervous System Nervous Diseases	—	—	—	—	—	—	—
1. Nervous System Mental "	1	—	—	—	1	—	·39
2. Eye	1	—	—	—	—	—	·03
3 & 4. Other Organs of Special Senses	7	1	—	1	1	1	·39
5. Circulatory System	—	—	—	—	—	—	—
6. Respiratory "	3	—	—	—	—	—	·14
7. Digestive "	30	—	—	—	1	—	1·87
8. Lymphatic and Glandular System	10	—	—	—	—	—	1·25
9. Urinary System	2	—	—	—	—	—	·07
10. Generative "	21	—	—	—	—	—	1·38
11. Organs of Locomotion	3	—	—	—	—	—	·13
12. Connective Tissue	4	—	—	—	—	—	·13
13. Skin	25	—	—	—	—	—	1·11
III.—POISONS.	—	—	—	—	—	—	—
IV.—INJURIES.							
1. General	—	—	—	—	—	—	—
2. Local	29	—	—	—	—	—	1·46
3. In Action	—	—	—	—	—	—	—
No appreciable disease	—	—	—	—	—	—	—
Cause unknown (refers to deaths only)	—	—	—	—	—	—	—
General Total	303	3	—	3	5	1	17·98
* Average of 10 years, 1880–89	—	—	—	—	—	—	—

† The average ratios for 10 years will be given in future years. The average ratios
years 1886 to 1891 in

into HOSPITAL, DEATHS, NUMBERS INVALIDED and CONSTANTLY SICK among per 1,000 of the Strength and the average Ratios for 10 Years.*

Ratio per 1,000.					Average Ratio per 1,000 from 1886 to 1889.†				
Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.	Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	·7	—	—	—	·07
3·9	1·97	—	—	·41	8·5	2·58	1·47	—	1·54
55·1	—	—	—	1·56	64·7	—	—	—	2·09
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	19·2	·37	—	—	1·11
57·1	—	—	—	1·30	·4	—	—	—	—
116·1	1·97	—	—	3·27	93·5	2·95	1·47	—	4·82
27·6	—	—	—	1·20	86·4	·37	·74	—	2·28
—	—	—	—	—	1·8	—	—	—	·11
41·3	—	—	—	4·53	114·5	—	—	—	3·95
33·5	—	—	—	3·52	52·8	—	1·11	·37	4·57
74·8	—	—	—	4·51	102·3	—	—	—	5·69
149·6	—	—	—	12·56	269·6	—	1·11	·37	20·21
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	1·8	—	—	—	·03
—	—	—	—	—	1·1	—	—	—	·08
5·9	1·97	—	—	·16	3·0	—	—	—	·21
11·8	—	3·94	—	·67	12·9	—	1·11	·37	1·10
17·7	—	—	—	·90	23·6	—	—	—	1·29
—	—	—	—	—	·4	·37	·37	·74	·22
—	—	—	—	·20	2·2	—	—	—	·14
—	—	—	—	—	3·0	·37	1·47	1·11	·11
2·0	—	1·97	—	·77	8·7	—	·74	·37	·20
2·0	—	—	—	·06	11·9	—	·37	·37	·56
13·8	1·97	1·97	1·97	·77	1·8	—	—	·37	·10
—	—	—	—	—	·7	—	·37	·37	·23
5·9	—	—	—	·27	16·6	·37	·74	·74	·90
59·0	—	1·97	—	3·68	93·1	·37	·37	—	3·51
19·7	—	—	—	2·46	25·5	—	—	·37	2·92
3·9	—	—	—	·14	—	—	—	—	—
41·3	—	—	—	2·72	61·7	—	—	—	4·61
5·9	—	—	—	·25	7·4	—	·74	·74	·53
7·9	—	—	—	·25	29·2	—	—	—	1·65
49·2	—	—	—	2·19	40·3	—	·37	—	1·63
—	—	—	—	—	·4	—	—	—	·03
—	—	—	—	—	·4	—	—	—	·01
57·1	—	—	—	2·87	92·4	·37	·37	·37	3·78
—	—	—	—	—	—	—	—	—	·03
—	—	—	—	—	·4	—	—	—	—
—	—	—	—	—	—	—	—	—	—
596·4	5·90	9·84	1·97	35·39	881·8	5·17	10·34	6·28	51·28
873·7	8·66	14·49	5·66	44·47	—	—	—	—	—

for the five years 1886 to 1890 will be given in the Report for 1891; those for the that for 1892, &c., &c.

ABSTRACT No. V.—TABLE showing the AVERAGE STRENGTH, ADMISSIONS the TROOPS stationed in CANADA during the Year 1890, with the

Average Strength, 1,381. Diseases.	Admissions into Hospital.	Deaths. In the Command.	Deaths. Of Invalids.	Deaths. Total.	Invalids. Number sent Home.	Invalids. Number finally Discharged the Service.	Average Number Constantly Sick.
I.—GENERAL DISEASES.							
GROUP "A."							
Sub-Group I. Small-pox	—	—	—	—	—	—	—
Other Eruptive Fevers	—	—	—	—	—	—	—
Enteric Fever	5	1	—	1	—	—	·57
Other Continued Fevers	7	—	—	—	—	—	·30
Yellow Fever	—	—	—	—	—	—	—
Cholera	—	—	—	—	—	—	—
Dysentery	—	—	—	—	—	—	—
Other Diseases	28	—	—	—	—	—	1·21
Total	40	1	—	1	—	—	2·08
Sub-Group II.—Malarial Fevers	—	—	—	—	—	—	—
Sub-Group III.—Septic Diseases	5	—	—	—	—	—	·20
Sub-Group IV. Syphilis, Primary	43	—	—	—	—	—	2·48
„ Secondary	43	—	—	—	1	1	3·45
Gonorrhœa	57	—	—	—	—	—	3·00
Total	143	—	—	—	1	1	8·93
Sub-Group V.—Hydrophobia, &c.	—	—	—	—	—	—	—
GROUP "B."							
Sub-Group I.—Parasitic Diseases	—	—	—	—	—	—	—
Sub-Group II. Scurvy	—	—	—	—	—	—	—
Alcoholism	3	—	—	—	—	—	·08
GROUP "C."							
Debility, &c.	7	—	—	—	3	3	·47
GROUP "D."							
Rheumatism	21	—	—	—	1	—	1·36
Tubercular Diseases	3	—	—	—	2	2	·28
Other Diseases	5	—	—	—	1	—	·38
II.—LOCAL DISEASES.							
Diseases of the— 1. Nervous System Nervous Diseases	6	1	—	1	2	2	·66
Mental „	—	—	—	—	—	—	—
2. Eye	11	—	—	—	1	1	·60
3 & 4. Other Organs of Special Senses	—	—	—	—	—	—	—
5. Circulatory System	18	—	—	—	5	1	1·30
6. Respiratory „	49	2	—	2	3	4	4·02
7. Digestive „	33	1	—	1	1	1	2·48
8. Lymphatic and Glandular System	18	—	—	—	—	—	2·70
9. Urinary System	3	—	—	—	—	—	·17
10. Generative „	29	—	—	—	1	—	1·55
11. Organs of Locomotion	11	—	—	—	—	2	·64
12. Connective Tissue	29	—	—	—	—	—	1·44
13. Skin	42	—	—	—	—	—	1·87
III.—POISONS.	—	—	—	—	—	—	—
IV.—INJURIES.							
1. General	—	2	—	2	—	—	—
2. Local	72	—	—	—	—	—	3·64
3. In Action	—	—	—	—	—	—	—
No appreciable disease	2	—	—	—	—	—	·03
Cause unknown (refers to deaths only)	—	—	—	—	—	—	—
General Total	600	7	—	7	21	17	34·88
*Average of 10 years 1880–89	—	—	—	—	—	—	—

† The average ratios for 10 years will be given in future years. The average ratios for 1886 to 1891 in that

into HOSPITAL, DEATHS, NUMBERS INVALIDED and CONSTANTLY SICK among Ratios per 1,000 of the Strength, and the Average Ratios for 10 Years.*

Ratio per 1,000.					Average Ratio per 1,000 from 1886 to 1889.†				
Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.	Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	1·7	—	—	—	·06
3·6	·72	—	—	·41	2·4	·19	·19	—	·55
5·1	—	—	—	·22	3·8	—	—	—	·19
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
20·3	—	—	—	·88	2·6	—	—	—	·10
29·0	·72	—	—	1·51	10·5	·19	·19	—	·90
—	—	—	—	—	·3	—	—	—	—
3·6	—	—	—	·14	3·0	—	—	—	·16
31·1	—	—	—	1·80	29·4	—	—	—	2·28
31·1	—	·72	·72	2·50	27·8	—	1·13	·94	2·47
41·3	—	—	—	2·17	79·2	—	—	—	4·44
103·5	—	·72	·72	6·47	136·4	—	1·13	·94	9·20
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	·4	—	—	—	·01
—	—	—	—	—	—	—	—	—	—
2·2	—	—	—	·06	1·9	—	—	—	·06
5·1	—	2·17	2·17	·34	2·8	—	1·32	·56	·21
15·2	—	·72	—	·98	39·1	—	·75	·19	2·68
2·2	—	1·45	1·45	·20	1·5	·75	·94	·94	·21
3·6	—	·72	—	·28	3·6	—	·56	1·13	·25
4·3	·72	1·45	1·45	·48	11·7	·38	3·20	2·44	1·09
—	—	—	—	—	·9	·19	·75	·75	·22
8·0	—	·72	·72	·43	10·7	—	·56	1·13	·48
—	—	—	—	—	8·6	—	1·13	1·32	·83
13·0	—	3·62	·72	·94	12·8	·38	2·82	3·01	1·31
35·5	1·45	2·17	2·90	2·91	42·1	·75	1·50	1·32	2·82
60·1	·72	·72	·72	1·80	72·4	·19	·38	·19	1·84
13·0	—	—	—	1·96	12·8	—	—	—	1·19
2·2	—	—	—	·12	3·4	·38	·94	·38	·47
21·0	—	·72	—	1·12	30·5	—	·19	·19	1·50
8·0	—	—	1·45	·46	8·3	—	1·32	·38	·89
21·0	—	—	—	1·04	21·2	—	·38	—	1·02
30·4	—	—	—	1·35	40·1	—	·19	·38	1·66
—	—	—	—	—	·4	·38	—	—	—
—	1·45	—	—	—	·4	·38	—	—	·03
52·1	—	—	—	2·64	71·9	·75	·94	·38	3·08
—	—	—	—	—	—	—	—	—	—
1·4	—	—	—	·02	1·5	—	—	—	·08
—	—	—	—	—	—	—	—	—	—
484·4	5·07	15·20	12·31	25·25	549·1	4·70	19·19	15·61	32·19
681·9	5·38	24·41	20·71	37·86	—	—	—	—	—

the five years, 1886 to 1890, will be given in the Report for 1891; those for the six years for 1892, &c., &c.

ABSTRACT No. VI.—TABLE showing the AVERAGE STRENGTH, ADMISSIONS the TROOPS stationed at BERMUDA during the Year 1890, with the Ratios

Average Strength, 1,546. Diseases.	Admissions into Hospital.	Deaths. In the Command.	Deaths. Of Invalids.	Deaths. Total.	Invalids. Number sent Home.	Invalids. Number finally Discharged the Service.	Average Number constantly Sick.
I.—GENERAL DISEASES.							
GROUP "A."							
Sub-Group I. Small-pox	—	—	—	—	—	—	—
Other Eruptive Fevers	—	—	—	—	—	—	—
Enteric Fever	62	10	—	10	—	—	7·61
Other Continued Fevers	69	—	—	—	—	—	2·17
Yellow Fever	—	—	—	—	—	—	—
Cholera	—	—	—	—	—	—	—
Dysentery	2	1	—	1	—	—	·19
Other Diseases	41	—	—	—	—	—	·73
Total	174	11	—	11	—	—	10·70
Sub-Group II.—Malarial Fevers	—	—	—	—	—	—	—
Sub-Group III.—Septic Diseases	—	—	—	—	—	—	—
Sub-Group IV. Syphilis, Primary	20	—	—	—	—	—	2·21
„ Secondary	44	—	—	—	1	1	2·76
Gonorrhœa	18	—	—	—	—	—	1·73
Total	82	—	—	—	1	1	6·70
Sub-Group V.—Hydrophobia, &c.	—	—	—	—	—	—	—
GROUP "B."							
Sub-Group I.—Parasitic Diseases	2	—	—	—	—	—	·06
Sub-Group II. Scurvy	—	—	—	—	—	—	—
Alcoholism	15	—	—	—	—	—	·44
GROUP "C."							
Debility, &c.	27	—	—	—	1	2	1·51
GROUP "D."							
Rheumatism	29	—	—	—	1	—	1·25
Tubercular Diseases	6	1	2	3	1	1	·62
Other Diseases	6	—	—	—	—	—	·29
II.—LOCAL DISEASES.							
Diseases of the— 1. Nervous System Nervous Diseases	9	1	1	2	1	—	·43
Mental „	3	—	—	—	1	3	·39
2. Eye	23	—	—	—	2	1	·97
3 & 4. Other Organs of Special Senses	16	—	—	—	3	3	·34
5. Circulatory System	6	1	—	1	—	1	·20
6. Respiratory „	59	1	—	1	4	1	2·43
7. Digestive „	184	2	—	2	2	2	4·40
8. Lymphatic and Glandular System	17	—	—	—	—	—	1·60
9. Urinary System	2	—	—	—	—	—	·07
10. Generative „	29	—	—	—	—	—	1·40
11. Organs of Locomotion	13	—	—	—	3	2	1·09
12. Connective Tissue	64	—	—	—	—	—	1·70
13. Skin	62	—	—	—	—	—	1·50
III.—POISONS	2	—	—	—	—	—	·26
IV.—INJURIES.							
1. General	4	—	—	—	—	—	·15
2. Local	153	1	—	1	1	1	6·14
3. In Action	—	—	—	—	—	—	—
No appreciable disease	1	—	—	—	—	—	·01
Cause unknown (refers to deaths only)	—	—	—	—	—	—	—
General Total	968	18	3	21	21	18	44·85
* Average of 10 years, 1880-89	—	—	—	—	—	—	—

† The average ratios for 10 years will be given in future years. The average ratios for 1886 to 1891

into HOSPITAL, DEATHS, NUMBERS INVALIDED and CONSTANTLY SICK among per 1,000 of the Strength, and the Average Ratios for 10 Years.*

Ratio per 1,000.					Average Ratio per 1,000 from 1886 to 1889.†				
Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.	Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
40·1	6·47	—	—	4·92	45·9	7·09	—	—	5·64
44·6	—	—	—	1·40	27·0	—	—	—	1·27
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
1·3	·65	—	—	·12	2·0	·20	—	—	·11
26·5	—	—	—	·47	·2	—	—	—	—
112·5	7·11	—	—	6·92	75·1	7·29	—	—	7·03
—	—	—	—	—	·8	—	—	—	·01
—	—	—	—	—	—	—	—	—	—
13·9	—	—	—	1·43	21·9	—	—	—	1·86
23·5	—	·65	·65	1·78	21·1	—	·79	·59	1·73
11·6	—	—	—	1·12	24·8	—	—	—	1·50
53·0	—	·65	·65	4·33	67·8	—	·79	·59	5·09
—	—	—	—	—	—	—	—	—	—
1·3	—	—	—	·04	·2	—	—	—	—
—	—	—	—	—	—	—	—	—	—
9·7	—	—	—	·28	7·9	·20	—	—	·21
17·5	—	·65	1·29	·98	13·4	—	1·58	·59	·87
18·8	—	·65	—	·81	21·1	—	·98	·98	1·23
3·9	1·94	·65	·65	·40	2·7	·59	1·77	1·77	·37
3·9	—	—	—	·19	4·7	—	·39	—	·43
5·8	1·29	·65	—	·28	5·5	·59	·79	·39	·38
1·9	—	·65	1·94	·25	1·6	—	·98	·59	·21
14·9	—	1·29	·65	·63	15·2	—	·79	·59	·74
10·3	—	1·94	1·94	·22	9·2	—	·39	·79	·55
3·9	·65	—	·65	·13	13·8	·59	3·35	2·76	1·05
38·1	·65	2·58	·65	1·57	28·9	·79	1·77	1·77	1·68
119·0	1·29	1·29	1·29	2·85	109·1	·20	1·97	1·18	3·49
11·0	—	—	—	1·03	18·1	—	·20	·39	1·46
1·3	—	—	—	·04	2·4	·20	·20	—	·11
18·8	—	—	—	·91	20·9	—	—	·20	1·06
8·4	—	1·94	1·29	·70	5·5	—	1·38	1·38	·74
41·4	—	—	—	1·10	26·2	—	—	—	·95
40·1	—	—	—	·97	67·2	—	·20	—	2·43
1·3	—	—	—	·17	·2	·20	—	—	—
2·6	—	—	—	·10	·8	·79	—	—	·12
99·0	·65	·65	·65	3·97	104·6	·59	·20	·20	3·28
—	—	—	—	—	—	—	—	—	—
·6	—	—	—	·01	4·5	—	—	—	·10
—	—	—	—	—	—	—	—	—	—
639·0	13·58	13·58	11·64	28·88	630·4	12·02	17·73	14·18	33·59
632·1	10·04	16·97	9·90	33·66	—	—	—	—	—

the five years 1886 to 1890 will be given in the Report for 1891; those for the six years in that for 1892, &c., &c.

ABSTRACT No. VII.—TABLE showing the AVERAGE STRENGTH, ADMISSIONS the WHITE TROOPS stationed in the WEST INDIES during the Year 1890, with

Average Strength, 1,044. Diseases.	Admissions into Hospital.	Deaths. In the Command.	Deaths. Of Invalids.	Deaths. Total.	Invalids. Number sent Home.	Invalids. Number finally Discharged the Service.	Average Number Constantly Sick.
I.—GENERAL DISEASES.							
GROUP "A."							
Sub-Group I. Small-pox	—	—	—	—	—	—	—
Other Eruptive Fevers	—	—	—	—	—	—	—
Enteric Fever	9	1	—	1	—	—	1·48
Other Continued Fevers	94	—	—	—	—	—	3·54
Yellow Fever	—	—	—	—	—	—	—
Cholera	—	—	—	—	—	—	—
Dysentery	12	1	—	1	—	—	·63
Other Diseases	62	—	—	—	—	—	1·31
Total	177	2	--	2	—	—	6·90
Sub-Group II.—Malarial Fevers	22	—	—	—	—	—	·79
Sub-Group III.—Septic Diseases	—	—	—	—	—	—	—
Sub-Group IV. Syphilis, Primary	64	—	—	—	—	—	5·01
" Secondary	40	—	—	—	4	3	4·33
Gonorrhœa	155	—	—	—	—	—	11·05
Total	259	—	—	—	4	3	20·39
Sub-Group V.—Hydrophobia, &c.	—	—	—	—	—	—	—
GROUP "B."							
Sub-Group I.—Parasitic Diseases	—	—	—	—	—	—	—
Sub-Group II. Scurvy	—	—	—	—	—	—	—
Alcoholism	3	—	—	—	—	—	·13
GROUP "C."							
Debility, &c.	17	—	—	—	1	4	1·13
GROUP "D."							
Rheumatism	44	1	—	1	4	—	2·89
Tubercular Diseases	—	—	1	1	1	1	·19
Other Diseases	4	—	—	—	1	1	·28
II.—LOCAL DISEASES.							
Diseases of the— 1. Nervous System Nervous Diseases	19	1	—	1	4	3	1·51
Mental "	3	—	—	—	3	2	·51
2. Eye	23	—	—	—	1	3	1·34
3 & 4. Other Organs of Special Senses	13	—	—	—	—	1	·57
5. Circulatory System	19	—	—	—	4	3	1·42
6. Respiratory "	30	2	—	2	—	—	1·64
7. Digestive "	121	1	—	1	5	4	3·20
8. Lymphatic and Glandular System	42	—	—	—	—	—	4·51
9. Urinary System	2	1	—	1	—	—	·04
10. Generative "	133	—	—	—	—	—	9·21
11. Organs of Locomotion	9	—	—	—	1	1	·55
12. Connective Tissue	45	—	—	—	—	—	2·12
13. Skin	64	—	—	—	—	—	2·52
III.—POISONS	1	—	—	—	—	—	·01
IV.—INJURIES.							
1. General	—	—	—	—	—	—	—
2. Local	182	—	—	—	2	2	5·73
3. In Action	—	—	—	—	—	—	—
No appreciable disease	9	—	—	—	—	—	·14
Cause unknown (refers to deaths only)	—	1	—	1	—	—	—
General Total	1,241	9	1	10	30	28	67·78
* Average for 10 Years 1880–89	—	—	—	—	—	—	—

The average ratios for 10 years will be given in future years. The average ratios for the 1886 to 1891 in that

into HOSPITAL, DEATHS, NUMBERS INVALIDED and CONSTANTLY SICK among the Ratios per 1,000 of the Strength, and the Average Ratios for 10 Years.*

Ratio per 1,000.					Average Ratio per 1,000 from 1886 to 1889.†				
Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.	Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	10·7	—	—	—	·24
8·6	·96	—	—	1·42	13·0	2·52	—	—	1·74
90·0	—	—	—	3·39	112·7	·46	—	—	3·63
—	—	—	—	—	·5	·46	—	—	·02
—	—	—	—	—	—	—	—	—	—
11·5	·96	—	—	·60	7·6	·46	·23	—	·28
59·4	—	—	—	1·25	·7	—	—	—	·01
169·5	1·91	—	—	6·66	145·2	3·89	·23	—	5·92
21·1	—	—	—	·76	33·2	1·14	·23	—	1·64
—	—	—	—	—	1·1	—	—	—	·07
61·3	—	—	—	4·80	33·0	—	—	—	2·58
38·3	—	3·83	2·87	4·15	28·2	·23	1·83	·69	2·85
148·5	—	—	—	10·58	137·2	—	—	—	8·76
248·1	—	3·83	2·87	19·53	198·4	·23	1·83	·69	14·19
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	2·5	—	—	—	·06
—	—	—	—	—	—	—	—	—	—
2·9	—	—	—	·12	10·5	—	—	—	·26
16·3	—	·96	3·83	1·08	15·6	—	2·06	·46	·82
42·2	·96	3·83	—	2·77	34·1	—	·23	·46	1·52
—	·96	·96	·96	·18	1·6	—	1·14	·91	·23
3·8	—	·96	·96	·27	6·2	—	·23	—	·46
18·2	·96	3·83	2·87	1·45	11·7	·23	1·60	1·37	·70
2·9	—	1·91	1·91	·49	—	—	—	·46	—
23·0	—	·96	2·87	1·28	14·0	—	·46	—	·75
12·5	—	—	·96	·55	21·3	—	·23	·46	·58
18·2	—	3·83	2·87	1·36	11·2	·46	1·83	1·60	·69
28·7	1·91	—	—	1·57	33·2	·68	·69	1·37	1·67
115·9	·96	4·79	3·83	3·07	106·1	·23	·46	·23	2·76
40·2	—	—	—	4·32	42·1	—	—	·23	3·90
1·9	·96	—	—	·04	2·3	·23	·23	·23	·12
127·4	—	—	—	8·82	102·8	—	·46	·46	6·68
8·6	—	·96	·96	·53	7·6	·23	1·60	·46	·70
43·1	—	—	—	2·03	33·5	—	—	·23	1·35
61·3	—	—	—	2·41	94·1	—	·69	·23	3·55
1·0	—	—	—	·01	·2	—	—	—	·02
—	—	—	—	—	·5	·23	—	—	·13
174·3	—	1·91	1·91	5·49	158·7	1·14	·46	·23	5·15
—	—	—	—	—	—	—	—	—	—
8·6	—	—	—	·13	3·7	—	—	—	·08
—	·96	—	—	—	—	—	—	—	—
1188·7	9·58	28·73	26·83	64·92	1091·4	8·70	14·66	10·03	53·99
1005·4	14·43	24·65	12·96	48·77	—	—	—	—	—

five years 1886 to 1890 will be given in the Report for 1891; those for the six years for 1892, &c., &c.

ABSTRACT No. VIII.—Table showing the Average Strength, Admissions the Black Troops stationed in the West Indies during the Year 1890, with

Average Strength, 1,083. Diseases.	Admissions into Hospital.	Deaths. In the Command.	Deaths. Of Invalids.	Deaths. Total.	Invalids. Number sent Home.	Invalids. Number finally Discharged the Service.	Average Number Constantly Sick.
I.—GENERAL DISEASES.							
Group "A."							
Sub-Group I. Small-pox	—	—	—	—	—	—	—
Other Eruptive Fevers	23	—	—	—	—	—	1·09
Enteric Fever	2	2	—	2	—	—	·38
Other Continued Fevers	126	—	—	—	—	—	3·26
Yellow Fever	—	—	—	—	—	—	—
Cholera	—	—	—	—	—	—	—
Dysentery	9	—	—	—	—	—	·39
Other Diseases	3	—	—	—	—	—	·06
Total	163	2	—	2	—	—	5·18
Sub-Group II.—Malarial Fevers	106	1	—	1	—	—	3·17
Sub-Group III.—Septic Diseases	1	—	—	—	—	—	·06
Sub-Group IV. Syphilis, Primary	117	—	—	—	—	—	10·83
„ Secondary	53	—	—	—	—	5	4·43
Gonorrhœa	189	—	—	—	—	—	10·07
Total	359	—	—	—	—	5	25·33
Sub-Group V.—Hydrophobia, &c.	—	—	—	—	—	—	—
Group "B."							
Sub-Group I.—Parasitic Diseases	—	—	—	—	—	—	—
Sub-Group II. Scurvy	—	—	—	—	—	—	—
Alcoholism	—	—	—	—	—	—	—
Group "C."							
Debility, &c.	5	—	—	—	—	4	·63
Group "D."							
Rheumatism	72	—	—	—	—	3	3·83
Tubercular Diseases	12	4	—	4	—	6	1·23
Other Diseases	4	—	—	—	—	3	·55
II.—LOCAL DISEASES.							
Diseases of the—							
1. Nervous System Nervous Diseases	9	—	—	—	—	3	·58
1. Nervous System Mental „	1	—	—	—	—	—	·27
2. Eye	44	—	—	—	—	4	3·14
3 & 4. Other Organs of Special Senses	6	—	—	—	—	1	·35
5. Circulatory System	15	1	—	1	—	4	·72
6. Respiratory „	54	1	—	1	—	1	2·91
7. Digestive „	60	1	—	1	—	2	1·70
8. Lymphatic and Glandular System	53	—	—	—	—	2	4·50
9. Urinary System	2	—	—	—	—	1	·16
10. Generative „	126	—	—	—	—	1	11·52
11. Organs of Locomotion	6	—	—	—	—	2	·70
12. Connective Tissue	39	—	—	—	—	—	1·86
13. Skin	99	—	—	—	—	2	4·37
III.—POISONS	—	—	—	—	—	—	—
IV.—INJURIES.							
1. General	1	1	—	1	—	—	—
2. Local	89	1	—	1	—	2	2·89
3. In Action	—	—	—	—	—	—	—
No appreciable disease	7	—	—	—	—	—	·13
Cause unknown (refers to deaths only)	—	—	—	—	—	—	—
General Total	1,333	12	—	12	—	46	75·78
* Average for 10 years, 1880–89	—	—	—	—	—	—	—

† The average ratios for 10 years will be given in future years. The average ratios for 1886 to 1891 in

into HOSPITAL, DEATHS, NUMBERS INVALIDED and CONSTANTLY SICK among the Ratios per 1,000 of the Strength, and the Average Ratios for 10 Years.*

Ratio per 1,000.					Average Ratio per 1,000 from 1886 to 1889.†				
Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.	Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.
—	—	—	—	—	·2	—	—	—	·03
21·2	—	—	—	1·01	12·7	—	—	—	·81
1·9	1·85	—	—	·35	1·8	·23	—	—	·11
116·3	—	—	—	3·01	111·4	·23	—	—	3·86
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
8·3	—	—	—	·36	14·9	·68	—	·23	·75
2·8	—	—	—	·05	20·3	—	—	—	·42
150·5	1·85	—	—	4·78	161·3	1·13	—	·23	5·98
97·9	·92	—	—	2·93	119·5	2·94	—	·45	3·43
·9	—	—	—	·06	·7	—	—	—	·03
108·0	—	—	—	10·00	82·5	—	—	—	7·27
49·0	—	—	4·62	4·09	44·0	·23	—	4·52	3·42
174·5	—	—	—	9·30	162·2	—	—	·23	8·80
331·5	—	—	4·62	23·39	288·7	·23	—	4·74	19·49
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	·9	—	—	—	·01
—	—	—	—	—	·2	—	—	—	·03
—	—	—	—	—	·2	—	—	—	—
4·6	—	—	3·69	·58	8·3	—	—	3·39	·51
66·5	—	—	2·77	3·54	72·0	—	—	2·26	3·96
11·1	3·69	—	5·54	1·14	5·9	2·71	—	4·52	1·01
3·7	—	—	2·77	·51	6·3	·23	—	4·07	·90
8·3	—	—	2·77	·53	13·8	·68	—	3·16	·84
·9	—	—	—	·25	·9	—	—	1·36	·28
40·6	—	—	3·69	2·90	27·3	—	—	2·48	1·91
5·5	—	—	·92	·32	5·9	·23	—	·90	·66
13·9	·92	—	3·69	·66	17·4	1·58	—	5·42	1·78
49·9	·92	—	·92	2·69	55·8	3·16	—	2·26	3·85
55·4	·92	—	1·85	1·57	78·6	1·36	—	2·26	2·17
48·9	—	—	1·85	4·15	44·0	—	—	·90	3·74
1·9	—	—	·92	·15	2·3	·45	—	·90	·23
116·3	—	—	·92	10·64	154·5	—	—	2·94	11·46
5·5	—	—	1·85	·64	12·0	—	—	3·39	·77
36·0	—	—	—	1·72	33·9	—	—	·23	1·67
91·4	—	—	1·85	4·03	75·0	—	—	·90	3·22
—	—	—	—	—	—	—	—	—	—
·9	·92	—	—	—	·9	·45	—	—	·01
82·2	·92	—	1·85	2·67	86·3	·23	—	·90	2·97
—	—	—	—	—	—	—	—	—	—
6·5	—	—	—	·12	7·7	—	—	—	·14
—	—	—	—	—	—	—	—	—	—
1230·8	11·08	—	42·47	69·97	1280·3	15·36	—	47·66	71·05
1132·7	14·94	—	42·65	64·39	—	—	—	—	—

the five years 1886 to 1890, will be given in the Report for 1891; those for the six years that for 1892, &c., &c.

ABSTRACT No. IX.—TABLE showing the AVERAGE STRENGTH, ADMISSIONS among the BLACK TROOPS stationed at WEST AFRICA during the Year 1890

Average Strength, 585. Diseases.	Admissions into Hospital.	Deaths. In the Command.	Deaths. Of Invalids.	Deaths. Total.	Invalids. Number sent to West Indies.	Invalids. Number finally Discharged the Service.	Average Number Constantly Sick.
I.—GENERAL DISEASES.							
GROUP "A."							
Sub-Group I. Small-pox	—	—	—	—	—	—	—
Other Eruptive Fevers	11	—	—	—	—	—	·26
Enteric Fever	—	—	—	—	—	—	—
Other Continued Fevers	—	—	—	—	—	—	—
Yellow Fever	—	—	—	—	—	—	—
Cholera	—	—	—	—	—	—	—
Dysentery	8	—	—	—	—	—	·33
Other Diseases	8	—	—	—	—	—	·21
Total	27	—	—	—	—	—	·60
Sub-Group II.—Malarial Fevers	517	2	—	2	1	—	15·71
Sub-Group III.—Septic Diseases	1	—	—	—	—	—	·01
Sub-Group IV. Syphilis, Primary	28	—	—	—	—	—	2·80
" Secondary	41	—	—	—	4	1	5·95
Gonorrhœa	79	—	—	—	—	—	4·22
Total	148	—	—	—	4	1	12·97
Sub-Group V.—Hydrophobia, &c.	—	—	—	—	—	—	—
GROUP "B."							
Sub-Group I.—Parasitic Diseases	5	—	—	—	—	—	·01
Sub-Group II. Scurvy	—	—	—	—	—	—	—
Alcoholism	—	—	—	—	—	—	—
GROUP "C."							
Debility, &c.	13	—	—	—	12	—	·96
GROUP "D."							
Rheumatism	65	—	—	—	6	— 2	4·53
Tubercular Diseases	6	3	2	5	3	— 3	·87
Other Diseases	2	—	—	—	4	— 1	·08
II.—LOCAL DISEASES.							
Diseases of the—							
1. Nervous System Nervous Diseases	4	1	—	1	3	2	·05
Mental "	1	—	—	—	—	—	·02
2. Eye	28	—	—	—	—	—	1·82
3 & 4. Other Organs of Special Senses	4	—	—	—	—	—	·06
5. Circulatory System	7	—	—	—	3	1	·73
6. Respiratory "	52	2	—	2	1	1	2·45
7. Digestive "	60	—	—	—	—	—	2·06
8. Lymphatic and Glandular System	32	—	—	—	2	—	2·72
9. Urinary System	3	—	—	—	1	1	·28
10. Generative "	52	—	—	—	—	—	3·50
11. Organs of Locomotion	9	—	—	—	—	—	1·99
12. Connective Tissue	24	—	—	—	—	—	·99
13. Skin	102	—	—	—	—	—	4·55
III.—POISONS.	—	—	—	—	—	—	—
IV.—INJURIES.							
1. General	—	—	—	—	—	—	—
2. Local	26	—	—	—	1	1	·72
3. In Action	—	—	—	—	—	—	—
No appreciable disease	—	—	—	—	—	—	—
Cause unknown (refers to deaths only)	—	—	—	—	—	—	—
General Total	1,188	8	2	10	41	13	57·90
* Average of 10 years, 1880–89	—	—	—	—	—	—	—

† The average ratios for 10 years will be given in future years. The average ratios 1886 to 1891 in that

into HOSPITAL, DEATHS, NUMBERS INVALIDED and CONSTANTLY SICK with the Ratios per 1,000 of the Strength, and the Average Ratios for 10 Years.*

Ratio per 1,000.					Average Ratio per 1,000 from 1886 to 1889.†				
Admissions.	Deaths.	Invalids sent to West Indies.	Invalids finally Discharged.	Constantly Sick.	Admissions.	Deaths.	Invalids sent to West Indies.	Invalids finally Discharged.	Constantly Sick.
—	—	—	—	—	—	—	—	—	—
18·8	—	—	—	·44	2·8	—	—	—	·06
—	—	—	—	—	·5	—	—	—	·01
—	—	—	—	—	17·3	—	—	—	·17
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
13·7	—	—	—	·57	35·9	—	·47	—	2·57
13·7	—	—	—	·36	14·5	—	—	—	·34
46·2	—	—	—	1·37	71·0	—	·47	—	3·15
883·8	3·42	1·71	—	26·85	922·5	8·40	—	—	21·58
1·7	—	—	—	·02	2·3	·47	—	—	·01
47·9	—	—	—	4·79	59·7	—	—	—	5·60
70·1	—	6·84	1·71	10·17	33·6	—	·47	—	2·79
135·0	—	—	—	7·21	155·5	—	—	—	9·34
253·0	—	6·84	1·71	22·17	248·8	—	·47	—	17·73
—	—	—	—	—	—	—	—	—	—
8·6	—	—	—	·02	1·9	—	—	—	·01
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	·9	—	—	—	·05
23·2	—	20·51	—	1·64	30·8	—	7·47	—	2·12
111·1	—	10·25	3·42	7·74	76·1	—	·93	—	4·67
10·3	8·55	5·13	5·13	1·49	7·5	3·27	1·87	—	·94
3·4	—	6·84	1·71	·14	3·3	—	—	—	·17
6·8	1·71	5·13	3·42	·08	10·8	·93	—	—	·73
1·7	—	—	—	·03	1·4	—	—	—	·13
47·9	—	—	—	3·11	24·3	—	·93	—	1·28
6·8	—	—	—	·10	2·8	—	—	—	·10
12·0	—	5·13	1·71	1·25	21·0	1·40	·93	—	1·11
88·9	3·42	1·71	1·71	4·19	54·6	1·40	—	—	2·77
102·6	—	—	—	3·56	64·9	·93	—	—	2·01
54·7	—	3·42	—	4·65	68·6	—	·47	—	6·54
5·1	—	1·71	1·71	·48	11·1	3·73	—	—	·97
88·9	—	—	—	5·98	81·7	—	·47	—	5·59
15·1	—	—	—	3·40	13·5	—	1·87	—	1·28
41·0	—	—	—	1·69	35·5	—	—	—	1·93
174·4	—	—	—	7·78	164·8	—	·47	—	6·86
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	·5	·47	—	—	·01
44·5	—	1·71	1·71	1·23	80·8	·93	—	—	2·67
—	—	—	—	—	5·1	·47	—	—	·11
—	—	—	—	—	3·3	—	—	—	·20
—	—	—	—	—	—	—	—	—	—
2030·7	17·09	70·08	22·22	98·97	2009·8	22·41	16·34	—	84·70
1683·6	21·79	10·90	7·81	71·74	—	—	—	—	—

for the five years 1886 to 1890 will be given in the Report for 1891; those for the six years for 1892 &c., &c.

ABSTRACT No. X.—TABLE showing the AVERAGE STRENGTH, ADMISSIONS among the TROOPS stationed at SOUTH AFRICA and ST. HELENA average Ratios for 10 Years.*

Average Strength. 2,961. Diseases.	Admissions into Hospital.	Deaths. In the Command.	Deaths. Of Invalids.	Deaths. Total.	Invalids. Number sent Home.	Invalids. Number finally discharged the Service.	Average Number constantly Sick.
I.—GENERAL DISEASES.							
GROUP "A."							
Sub-Group I. Small-pox	—	—	—	—	—	—	—
Other Eruptive Fevers	3	—	—	—	—	—	·15
Enteric Fever	45	5	—	5	—	—	3·66
Other Continued Fevers	110	—	—	—	—	—	5·30
Yellow Fever	—	—	—	—	—	—	—
Cholera	1	—	—	—	—	—	·01
Dysentery	25	1	—	1	5	—	3·08
Other Diseases	15	—	—	—	—	—	·28
Total	199	6	—	6	5	—	12·48
Sub-Group II.—Malarial Fevers	48	—	—	—	—	—	2·36
Sub-Group III.—Septic Diseases	4	—	—	—	—	—	·33
Sub-Group IV. Syphilis, Primary	221	—	—	—	—	—	18·02
„ Secondary	148	1	—	1	22	15	14·06
Gonorrhœa	198	—	—	—	1	—	14·09
Total	567	1	—	1	23	15	46·17
Sub-Group V.—Hydrophobia, &c.	—	—	—	—	—	—	—
GROUP "B."							
Sub-Group I.—Parasitic Diseases	4	—	—	—	—	—	·15
Sub-Group II. Scurvy	—	—	—	—	—	—	—
Alcoholism	20	—	—	—	1	—	·50
GROUP "C."							
Debility, &c.	48	—	—	—	8	4	2·89
GROUP "D."							
Rheumatism	116	1	1	2	8	1	9·43
Tubercular Diseases	5	1	—	1	2	1	1·00
Other Diseases	16	—	2	2	3	2	2·12
II.—LOCAL DISEASES.							
Diseases of the—							
1. Nervous System Nervous Diseases	23	—	—	—	4	3	1·99
1. Nervous System Mental „	2	—	1	1	4	3	·79
2. Eye	52	—	—	—	3	3	3·32
3 & 4. Other Organs of Special Senses	14	—	—	—	5	4	1·65
5. Circulatory System	45	—	1	1	13	9	5·45
6. Respiratory „	104	1	—	1	9	6	6·86
7. Digestive „	270	3	—	3	7	6	10·17
8. Lymphatic and Glandular System	63	—	—	—	—	—	6·29
9. Urinary System	8	—	—	—	—	3	·46
10. Generative „	104	—	—	—	4	3	6·62
11. Organs of Locomotion	22	—	—	—	1	2	1·49
12. Connective Tissue	79	—	—	—	—	—	1·86
13. Skin	195	—	—	—	3	1	9·33
III.—POISONS	—	—	—	—	—	—	—
IV.—INJURIES.							
1. General	8	4	1	5	2	—	·71
2. Local	305	2	—	2	3	2	15·19
3. In Action	—	—	—	—	—	—	—
No appreciable disease	6	—	—	—	—	—	·23
Cause unknown (refers to deaths only)	—	—	—	—	—	—	—
General Total	2,327	19	6	25	108	68	149·84
* Average of 10 years, 1880–89	—	—	—	—	—	—	—

† The average ratios for 10 years will be given in future years. The average ratios for 1886 to 1891 in

into HOSPITAL, DEATHS, NUMBERS INVALIDED and CONSTANTLY SICK during the Year 1890, with the Ratios per 1,000 of the Strength, and the

Ratio per 1,000.					Average Ratio per 1,000 from 1886 to 1889.†				
Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.	Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.
—	—	—	—	—	—	—	—	—	—
1·0	—	—	—	·05	·6	—	—	—	·04
15·2	1·69	—	—	1·24	2·7	1·03	—	—	·31
37·2	—	—	—	1·79	27·2	·07	—	—	1·20
—	—	—	—	—	—	—	—	—	—
·3	—	—	—	—	—	—	—	—	—
8·4	·34	1·69	—	1·04	7·4	·14	·62	·07	·70
5·1	—	—	—	·09	·2	—	—	—	—
67·2	2·03	1·69	—	4·21	38·1	1·24	·62	·07	2·25
16·2	—	—	—	·80	7·5	·07	·07	—	·28
1·3	—	—	—	·11	2·5	—	—	—	·10
74·6	—	—	—	6·08	106·5	—	—	—	8·52
50·0	·34	7·43	5·07	4·75	63·7	·27	2·20	1·51	5·16
66·9	—	·34	—	4·76	102·2	—	·20	—	6·59
191·5	·34	7·77	5·07	15·59	273·4	·27	2·40	1·51	20·27
—	—	—	—	—	—	—	—	—	—
1·3	—	—	—	·05	2·1	—	—	·20	·03
—	—	—	—	—	—	—	—	—	—
6·7	—	·34	—	·17	4·4	—	—	—	·11
16·2	—	2·70	1·35	·98	16·1	—	3·84	1·51	1·80
39·2	·68	2·70	·34	3·18	47·2	—	1·99	·69	3·51
1·7	·34	·68	·34	·34	2·7	·69	1·24	1·03	·41
5·4	·68	1·01	·68	·72	4·6	—	·41	·27	·27
7·8	—	1·35	1·01	·67	7·4	·69	1·37	1·24	·66
·7	·34	1·35	1·01	·27	1·2	·07	·96	·96	·27
17·6	—	1·01	1·01	1·12	18·5	—	1·37	1·30	1·46
4·7	—	1·69	1·35	·56	5·4	·07	·20	·34	·40
15·2	·34	4·39	3·04	1·84	11·0	·27	3·77	2·13	1·37
35·1	·34	3·04	2·03	2·32	20·6	·75	1·24	·69	1·68
91·2	1·01	2·36	2·03	3·43	77·1	·55	1·44	·82	2·98
21·3	—	—	—	2·12	45·5	—	·20	·20	4·41
2·7	—	—	1·01	·15	4·5	·14	·55	·14	·26
35·1	—	1·35	1·01	2·24	57·5	—	·27	·27	3·61
7·4	—	·34	·68	·50	6·5	·07	·55	·62	·50
26·7	—	—	—	·63	25·9	—	·07	—	1·25
65·9	—	1·01	·34	3·15	53·6	—	·14	—	2·42
—	—	—	—	—	·1	—	—	—	—
2·7	1·69	68	—	·24	1·9	·82	·14	·07	·10
103·0	·68	1·01	·68	5·13	94·1	·55	1·24	·82	4·22
—	—	—	—	—	—	·14	—	·14	—
2·0	—	—	—	·08	1·7	—	—	—	·06
—	—	—	—	—	—	—	—	—	—
785·8	8·44	36·47	22·97	50·60	831·1	6·38	24·08	15·02	54·68
779·5	18·23	43·13	23·03	52·20	—	—	—	—	—

the five years 1886 to 1890 will be given in the Report for 1891; those for the six years that for 1892, &c., &c.

ABSTRACT No. XI.—TABLE showing the AVERAGE STRENGTH, ADMISSIONS among the TROOPS stationed at MAURITIUS during the Year 1890, with

Average Strength, 516. Diseases.	Admissions into Hospital.	Deaths. In the Command.	Deaths. Of Invalids.	Deaths. Total.	Invalids. Number sent Home.	Invalids. Number finally Discharged the Service.	Average Number Constantly Sick.
I.—GENERAL DISEASES.							
GROUP "A."							
Sub-Group I. Small-pox	—	—	—	—	—	—	—
Other Eruptive Fevers	1	—	—	—	—	—	·09
Enteric Fever	8	1	—	1	1	—	1·00
Other Continued Fevers	—	—	—	—	—	—	—
Yellow Fever	—	—	—	—	—	—	—
Cholera	—	—	—	—	—	—	—
Dysentery	4	1	—	1	1	—	·41
Other Diseases	3	—	—	—	—	—	·05
Total	16	2	—	2	2	—	1·55
Sub-Group II.—Malarial Fevers	352	—	—	—	24	—	20·62
Sub-Group III.—Septic Diseases	1	—	—	—	—	—	·02
Sub-Group IV. Syphilis, Primary	24	—	—	—	—	—	2·39
" Secondary	17	—	—	—	2	1	1·06
Gonorrhœa	63	—	—	—	—	—	4·46
Total	104	—	—	—	2	1	7·91
Sub-Group V.—Hydrophobia, &c.	—	—	—	—	—	—	—
GROUP "B."							
Sub-Group I.—Parasitic Diseases	3	—	—	—	—	—	·04
Sub-Group II. Scurvy	—	—	—	—	—	—	—
Alcoholism	—	—	—	—	—	—	—
GROUP "C."							
Debility, &c.	2	—	—	—	—	3	·03
GROUP "D."							
Rheumatism	16	—	—	—	1	—	·64
Tubercular Diseases	—	—	—	—	—	—	—
Other Diseases	5	—	—	—	—	—	·16
II.—LOCAL DISEASES.							
Diseases of the—							
1. Nervous System Nervous Diseases	7	—	—	—	4	1	·57
Mental "	—	—	—	—	—	—	—
2. Eye	9	—	—	—	1	1	·74
3 & 4. Other Organs of Special Senses	9	—	—	—	1	—	·46
5. Circulatory System	10	1	—	1	3	3	·76
6. Respiratory "	15	—	—	—	—	—	·52
7. Digestive "	69	1	—	1	4	1	2·46
8. Lymphatic and Glandular System	42	—	—	—	—	—	4·24
9. Urinary System	4	—	—	—	2	1	·43
10. Generative "	41	—	—	—	1	1	2·53
11. Organs of Locomotion	3	—	—	—	—	—	·15
12. Connective Tissue	9	—	—	—	—	—	·23
13. Skin	38	—	—	—	—	—	1·20
III.—POISONS.	—	—	—	—	—	—	—
IV.—INJURIES.							
1. General	3	2	—	2	1	—	·04
2. Local	58	1	—	1	—	—	1·84
3. In Action	—	—	—	—	—	—	—
No appreciable disease	—	—	—	—	—	—	—
Cause unknown (refers to deaths only)	—	—	—	—	—	—	—
General Total	816	7	—	7	46	12	47·14
* Average of 10 years, 1880–89	—	—	—	—	—	—	—

† The average ratios for 10 years will be given in future years. The average ratios for 1886 to 1891 in that

into HOSPITAL, DEATHS, NUMBERS INVALIDED and CONSTANTLY SICK the Ratios per 1,000 of the Strength, and the Average Ratios for 10 Years.*

Ratio per 1,000.					Average Ratio per 1,000, from 1886 to 1889.†				
Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.	Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.
—	—	—	—	—	—	—	—	—	—
1·9	—	—	—	·17	—	—	—	—	—
15·5	1·94	1·94	—	1·94	4·6	2·29	—	—	·45
—	—	—	—	—	4·6	2·29	—	—	·24
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
7·8	1·94	1·94	—	·79	42·4	1·72	—	—	2·24
5·8	—	—	—	·10	—	—	—	—	—
31·0	3·88	3·88	—	3·00	51·6	6·31	—	—	2·93
682·2	—	46·51	—	39·96	555·9	3·44	7·46	—	22·85
1·9	—	—	—	·04	3·4	·57	—	—	·13
46·5	—	—	—	4·63	47·6	—	—	—	3·54
32·9	—	3·88	1·94	2·06	29·8	—	2·29	·57	3·21
122·1	—	—	—	8·64	144·0	—	—	—	9·17
201·5	—	3·88	1·94	15·33	221·4	—	2·29	·57	15·92
—	—	—	—	—	—	—	—	—	—
5·8	—	—	—	·08	3·4	—	—	·57	·06
—	—	—	—	—	·6	—	—	—	·03
—	—	—	—	—	5·7	—	—	—	·14
3·9	—	—	5·81	·06	23·0	—	13·20	2·29	1·44
31·0	—	1·94	—	1·24	24·1	—	1·15	·57	1·50
—	—	—	—	—	3·4	—	2·29	2·29	·37
9·7	—	—	—	·31	4·0	—	·57	—	·24
13·6	—	7·75	1·94	1·10	9·2	1·15	1·15	·57	·45
—	—	—	—	—	4·6	·57	2·87	3·44	·77
17·4	—	1·94	1·94	1·43	9·2	—	1·15	1·15	1·00
17·4	—	1·94	—	·89	6·3	—	·57	—	·38
19·4	1·94	5·81	5·81	1·47	23·0	—	5·16	3·44	1·84
29·1	—	—	—	1·01	16·1	—	1·15	1·15	1·11
153·7	1·94	7·75	1·94	4·77	92·4	1·72	1·15	—	3·91
81·4	—	—	—	8·22	48·8	—	—	·57	6·00
7·8	—	3·88	1·94	·83	5·7	—	1·72	·57	·46
79·5	—	1·94	1·94	4·90	74·6	—	—	·57	5·12
5·8	—	—	—	·29	4·0	—	—	—	·24
17·4	—	—	—	·45	22·4	—	—	—	1·09
73·7	—	—	—	2·33	45·3	—	—	—	2·57
—	—	—	—	—	—	—	—	—	—
5·8	3·88	1·94	—	·08	·6	·57	—	—	·02
112·4	1·94	—	—	3·57	93·0	·57	—	—	4·57
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	3·4	—	—	—	·10
—	—	—	—	—	—	—	—	—	—
1581·4	13·57	89·15	23·25	91·36	1355·1	14·91	41·88	17·76	75·24
1872·1	14·69	45·60	15·20	84·87	—	—	—	—	—

the five years 1886 to 1890 will be given in the Report for 1891; those for the six years for 1892, &c., &c.

ABSTRACT No. XII.—TABLE showing the AVERAGE STRENGTH, ADMISSIONS, the Troops stationed at CEYLON during the Year 1890, with the Ratios

Average Strength, 1,028. Diseases.	Admissions into Hospital.	Deaths. In the Command.	Deaths. Of Invalids.	Deaths. Total.	Invalids. Number sent Home.	Invalids. Number finally Discharged the Service.	Average Number Constantly Sick.
I.—GENERAL DISEASES.							
GROUP "A."							
Sub-Group I. Small-pox	—	—	—	—	—	—	—
Other Eruptive Fevers	2	—	—	—	—	—	·07
Enteric Fever	5	1	—	1	—	—	·60
Other Continued Fevers	62	—	—	—	—	—	1·71
Yellow Fever	—	—	—	—	—	—	—
Cholera	—	—	—	—	—	—	—
Dysentery	25	—	—	—	1	—	1·55
Other Diseases	1	—	—	—	—	—	·04
Total	95	1	—	1	1	—	3·97
Sub-Group II.—Malarial Fevers	12	—	—	—	1	—	·46
Sub-Group III.—Septic Diseases	—	—	—	—	—	—	—
Sub-Group IV. Syphilis, Primary	76	—	—	—	—	—	5·40
„ Secondary	102	—	—	—	3	5	7·62
Gonorrhœa	84	—	—	—	—	—	4·89
Total	262	—	—	—	3	5	17·91
Sub-Group V.—Hydrophobia, &c.	—	—	—	—	—	—	—
GROUP "B."							
Sub-Group I.—Parasitic Diseases	—	—	—	—	—	—	—
Sub-Group II. Scurvy	—	—	—	—	—	—	—
Alcoholism	5	—	—	—	—	—	·09
GROUP "C."							
Debility, &c.	28	—	—	—	9	4	2·51
GROUP D."							
Rheumatism	43	—	—	—	—	—	2·63
Tubercular Diseases	5	—	3	3	4	1	1·06
Other Diseases	11	—	—	—	4	3	1·50
II.—LOCAL DISEASES.							
Diseases of the—							
1. Nervous System Nervous Diseases	15	2	—	2	2	2	·66
Mental „	3	—	—	—	3	3	1·80
2. Eye	16	—	—	—	—	—	·77
3 & 4. Other Organs of Special Senses	3	—	—	—	—	—	·21
5. Circulatory System	12	—	—	—	—	1	1·05
6. Respiratory „	29	—	—	—	1	—	1·47
7. Digestive „	70	—	—	—	1	—	2·79
8. Lymphatic and Glandular System	40	—	—	—	—	—	4·51
9. Urinary System	1	—	—	—	1	1	·21
10. Generative „	51	—	—	—	—	—	4·37
11. Organs of Locomotion	9	—	—	—	4	3	1·42
12. Connective Tissue	16	—	—	—	—	—	·62
13. Skin	54	—	—	—	—	—	2·46
III.—POISONS	—	—	—	—	—	—	—
IV.—INJURIES.							
1. General	4	2	—	2	—	—	·22
2. Local	82	2	—	2	1	1	3·09
3. In Action	—	—	—	—	—	—	—
No appreciable disease	1	—	—	—	—	—	·02
Cause unknown (refers to deaths only)	—	—	—	—	—	—	—
General Total	867	7	3	10	35	24	55·80
* Average of 10 years 1880–89	—	—	—	—	—	—	—

† The average ratios for 10 years will be given in future years. The average ratios six years 1886 to 1891

into HOSPITAL, DEATHS, NUMBERS INVALIDED and CONSTANTLY SICK among per 1,000 of the Strength, and the Average Ratios for 10 Years.*

Ratio per 1,000.					Average Ratio per 1,000 from 1886 to 1889.†				
Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.	Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.
—	—	—	—	—	—	—	—	—	—
1·9	—	—	—	·07	·2	—	—	—	·01
4·9	·97	—	—	·58	12·8	6·27	—	—	1·21
60·3	—	—	—	1·66	91·7	—	—	—	3·01
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
24·3	—	·97	—	1·51	20·0	·93	1·86	·23	1·80
1·0	—	—	—	·04	—	—	—	—	—
92·4	·97	·97	—	3·86	124·7	7·20	1·86	·23	6·03
11·7	—	·97	—	·45	19·5	—	·47	—	·65
—	—	—	—	—	1·2	—	—	—	·02
73·9	—	—	—	5·25	51·1	—	·23	—	4·04
99·2	—	2·92	4·86	7·41	39·2	—	·47	·47	2·95
81·7	—	—	—	4·76	155·2	—	—	—	8·14
254·8	—	2·92	4·86	17·42	245·5	—	·70	·47	15·13
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	1·6	—	—	—	·02
—	—	—	—	—	—	—	—	—	—
4·9	—	—	—	·09	5·3	·23	—	—	·18
27·2	—	8·76	3·89	2·44	16·3	—	1·86	1·16	·88
41·8	—	—	—	2·56	25·8	—	—	—	1·34
4·9	2·92	3·89	·97	1·03	4·0	1·16	1·16	1·39	·93
10·7	—	3·89	2·92	1·46	16·0	—	—	—	1·01
14·6	1·95	1·95	1·95	·64	12·1	·23	2·09	1·39	·85
2·9	—	2·92	2·92	1·75	2·3	—	1·39	1·39	·56
15·6	—	—	—	·75	10·9	—	·47	·70	·58
2·9	—	—	—	·21	20·0	—	·47	·47	·92
11·7	—	—	·97	1·02	8·6	1·39	1·86	·47	·98
28·2	—	·97	—	1·45	18·6	·70	1·63	·47	1·79
68·1	—	·97	—	2·71	110·3	2·32	1·16	·47	4·30
38·9	—	—	—	4·39	92·0	—	·23	—	9·01
1·0	—	·97	·97	·21	6·0	—	·47	·23	·50
49·6	—	—	—	4·25	171·4	—	·23	—	10·08
8·7	—	3·89	2·92	1·38	7·9	—	·47	·47	·58
15·6	—	—	—	·60	28·7	—	—	—	·97
52·5	—	—	—	2·39	75·3	—	—	—	3·08
—	—	—	—	—	—	—	—	—	—
3·9	1·95	—	—	·21	2·1	1·39	—	—	·04
79·8	1·95	·97	·97	3·01	117·8	·23	·47	·47	4·54
—	—	—	—	—	—	—	—	—	—
1·0	—	—	—	·02	3·0	—	—	—	·04
—	—	—	—	—	—	—	—	—	—
843·4	9·73	34·04	23·34	54·28	1141·9	14·86	16·96	9·76	65·01
1198·0	14·37	33·62	13·87	64·45	—	—	—	—	—

for the five years 1886 to 1890 will be given in the Report for 1891; those for the in that for 1892, &c., &c.

ABSTRACT No. XIII.—TABLE showing the AVERAGE STRENGTH, ADMISSIONS among the TROOPS stationed in CHINA during the Year 1890, with the

Average Strength, 1,346. Diseases.	Admissions into Hospital.	Deaths. In the Command.	Deaths. Of Invalids.	Deaths. Total.	Invalids. Number sent Home.	Invalids. Number finally Discharged the Service.	Average Number constantly Sick.
I.—GENERAL DISEASES.							
GROUP "A."							
Sub-Group I. Small-pox	—	—	—	—	—	—	—
Other Eruptive Fevers	—	—	—	—	—	—	—
Enteric Fever	—	—	—	—	—	—	—
Other Continued Fevers	—	—	—	—	—	—	—
Yellow Fever	—	—	—	—	—	—	—
Cholera	—	—	—	—	—	—	—
Dysentery	13	—	1	1	2	—	·66
Other Diseases	—	—	—	—	—	—	—
Total	13	—	1	1	2	—	·66
Sub-Group II.—Malarial Fevers	799	1	—	1	3	1	17·55
Sub-Group III.—Septic Diseases	—	—	—	—	—	—	—
Sub-Group IV. Syphilis, Primary	35	—	—	—	—	—	3·02
„ Secondary	50	1	—	1	2	1	3·69
Gonorrhœa	171	—	—	—	—	—	10·49
Total	256	1	—	1	2	1	16·20
Sub-Group V.—Hydrophobia, &c.	—	—	—	—	—	—	—
GROUP "B."							
Sub-Group I.—Parasitic Diseases	—	—	—	—	—	—	—
Sub-Group II. Scurvy	—	—	—	—	—	—	—
Alcoholism	4	—	—	—	—	—	·20
GROUP "C."							
Debility, &c.	28	—	—	—	1	3	1·05
GROUP "D."							
Rheumatism	22	—	—	—	1	1	·70
Tubercular Diseases	5	1	1	2	4	1	1·28
Other Diseases	2	—	—	—	—	—	·09
II.—LOCAL DISEASES.							
Diseases of the—							
1. Nervous System Nervous Diseases	4	1	—	1	1	—	·35
1. Nervous System Mental „	2	1	—	1	1	1	·75
2. Eye	5	—	—	—	—	—	·20
3 & 4. Other Organs of Special Senses	9	—	—	—	—	—	·33
5. Circulatory System	37	3	1	4	8	8	2·33
6. Respiratory „	32	—	—	—	2	3	1·91
7. Digestive „	96	—	—	—	5	2	4·31
8. Lymphatic and Glandular System	18	—	—	—	1	1	1·36
9. Urinary System	2	—	—	—	—	—	·23
10. Generative „	170	—	—	—	—	—	11·10
11. Organs of Locomotion	9	—	—	—	—	—	·49
12. Connective Tissue	19	—	—	—	—	—	·77
13. Skin	31	—	—	—	—	—	1·15
III.—POISONS	—	—	—	—	—	—	—
IV.—INJURIES.							
1. General	—	1	—	1	—	—	—
2. Local	125	1	—	1	3	3	6·39
3. In Action	—	—	—	—	—	—	—
No appreciable disease	—	—	—	—	—	—	—
Cause unknown (refers to deaths only)	—	—	—	—	—	—	—
General Total	1,688	10	3	13	34	25	69·40
* Average of 10 years, 1880–89	—	—	—	—	—	—	—

† The average ratios for 10 years will be given in future years. The average ratios for the 1886 to 1891 in

into HOSPITAL, DEATHS, NUMBERS INVALIDED and CONSTANTLY SICK Ratios per 1,000 of the Strength, and the Average Ratios for 10 years.*

Ratio per 1,000.					†Average Ratio per 1,000 from 1886 to 1889.				
Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.	Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.
—	—	—	—	—	1·6	—	—	—	·14
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	1·8	·40	·20	—	·24
—	—	—	—	—	19·1	—	—	—	·49
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	·2	·20	—	—	—
9·6	·74	1·49	—	·49	19·1	·60	·80	—	1·07
—	—	—	—	—	·4	—	—	—	·02
9·6	·74	1·49	—	·49	42·2	1·19	·99	—	1·96
598·6	·74	2·23	·74	13·04	386·7	2·59	3·39	—	9·69
—	—	—	—	—	·2	—	—	—	·01
26·0	—	—	—	2·24	18·3	—	—	—	1·96
37·2	·74	1·49	·74	2·00	45·6	—	1·39	·80	3·32
127·0	—	—	—	7·79	105·5	—	—	—	6·64
190·2	·74	1·49	·74	12·03	169·4	—	1·39	·80	11·92
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	1·4	—	—	—	·02
—	—	—	—	—	—	·20	—	—	·01
3·0	—	—	—	·15	4·8	·20	—	—	·26
20·8	—	·74	2·23	·78	21·1	—	2·59	1·39	·97
16·3	—	·74	·74	·52	16·1	—	·20	—	·68
3·7	1·49	2·97	·74	·95	5·2	·40	2·39	1·19	·70
1·5	—	—	—	·07	7·0	·20	·20	·40	·68
3·0	·74	·74	—	·26	7·2	·20	·60	·60	·50
1·5	·74	·74	·74	·56	1·0	—	·40	·60	·22
3·7	—	—	—	·15	11·1	—	·80	·40	·61
6·7	—	—	—	·25	15·3	—	·40	·60	·60
27·5	2·97	5·94	5·94	1·73	6·8	·20	1·19	·80	·34
23·8	—	1·49	2·23	1·42	22·9	·20	·99	·60	1·39
71·3	—	3·71	1·49	3·20	107·3	·80	1·99	·60	4·11
13·4	—	·74	·74	1·01	16·5	—	·20	—	1·37
1·5	—	—	—	·17	5·2	—	·40	·20	·44
126·3	—	—	—	8·25	107·1	—	—	—	7·09
6·7	—	—	—	·38	11·3	—	1·19	·99	·76
14·1	—	—	—	·57	25·1	—	·40	·20	1·36
23·0	—	—	—	·85	55·0	—	·40	—	2·32
—	—	—	—	—	·6	—	—	—	—
—	·74	—	—	—	1·8	1·99	—	—	·12
92·9	·74	2·23	2·23	4·75	77·1	·99	·80	·80	3·83
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	·8	—	—	—	·05
—	—	—	—	—	—	—	—	—	—
1254·1	9·65	25·26	18·57	51·56	1126·2	9·16	20·01	10·16	52·11
1038·0	9·69	35·39	—	52·15	—	—	—	—	—

five years 1886 to 1890 will be given in the Report for 1891; those for the six years that for 1892, &c. &c.

ABSTRACT No. XIV.—TABLE showing the AVERAGE STRENGTH, ADMIS-
among the TROOPS stationed in the STRAITS SETTLEMENTS during
Ratios for 10 years.*

Average Strength, 1,257. Diseases.	Admissions into Hospital.	Deaths. In the Command.	Deaths. Of Invalids.	Deaths. Total.	Invalids. Number sent Home.	Invalids. Number finally Discharged the Service.	Average Number constantly Sick.
I.—GENERAL DISEASES.							
GROUP "A."							
Sub-Group I. Small-pox	—	—	—	—	—	—	—
Other Eruptive Fevers	—	—	—	—	—	—	—
Enteric Fever	1	—	—	—	—	—	·10
Other Continued Fevers	9	—	—	—	—	—	·49
Yellow Fever	—	—	—	—	—	—	—
Cholera	—	—	—	—	—	—	—
Dysentery	10	—	—	—	4	—	2·20
Other Diseases	1	—	—	—	—	—	·04
Total	21	—	—	—	4	—	2·83
Sub-Group II.—Malarial Fevers	129	—	—	—	—	—	3·96
Sub-Group III.—Septic Diseases	—	—	—	—	—	—	—
Sub-Group IV. Syphilis, Primary	150	—	—	—	—	—	14·95
„ Secondary	204	—	—	—	7	2	23·41
Gonorrhœa	281	—	—	—	1	—	20·46
Total	635	—	—	—	8	2	58·82
Sub-Group V.—Hydrophobia, &c.	—	—	—	—	—	—	—
GROUP "B."							
Sub-Group I.—Parasitic Diseases	4	—	—	—	—	—	·09
Sub-Group II. Scurvy	—	—	—	—	—	—	—
Alcoholism	6	—	—	—	—	—	·37
GROUP "C."							
Debility, &c.	28	—	—	—	2	4	3·14
GROUP "D."							
Rheumatism	23	—	—	—	—	—	2·26
Tubercular Diseases	3	1	—	1	2	1	1·29
Other Diseases	17	—	—	—	1	—	·98
II.—LOCAL DISEASES.							
Diseases of the—							
1. Nervous System Nervous Diseases	9	1	—	1	—	—	·46
Mental „	—	—	—	—	—	—	—
2. Eye	23	—	—	—	1	1	1·47
3 & 4. Other Organs of Special Senses	27	—	—	—	—	—	1·55
5. Circulatory System	10	—	—	—	1	1	1·60
6. Respiratory „	40	2	—	2	1	—	3·37
7. Digestive „	77	—	—	—	1	1	3·69
8. Lymphatic and Glandular System	73	—	—	—	—	1	11·32
9. Urinary System	3	—	—	—	—	—	1·03
10. Generative „	188	—	—	—	4	4	13·66
11. Organs of Locomotion	13	—	—	—	—	—	·72
12. Connective Tissue	29	—	—	—	—	—	1·46
13. Skin	102	—	—	—	—	—	3·75
III.—POISONS	—	—	—	—	—	—	—
IV.—INJURIES.							
1. General	1	1	—	1	—	—	·07
2. Local	108	—	—	—	—	—	4·46
3. In Action	—	—	—	—	—	—	—
No appreciable disease	1	—	—	—	—	—	·01
Cause unknown (refers to deaths only)	—	—	—	—	—	—	—
General Total	1,570	5	—	5	25	15	122·36
*Average of 10 years, 1880–89	—	—	—	—	—	—	—

† The average ratios for 10 years will be given in future years. The average ratios for the 1886 to 1891 in

SIONS into HOSPITAL, DEATHS, NUMBERS INVALIDED and CONSTANTLY SICK the Year 1890, with the Ratios per 1,000 of the Strength, and the Average

Ratio per 1,000.					Average Ratio per 1,000 from 1886 to 1889.†				
Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.	Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	·2	·92	—	—	·02
·8	—	—	—	·08	2·8	·23	—	—	·47
7·2	—	—	—	·39	91·2	·23	—	—	2·96
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	·2	—	—	—	—
7·9	—	3·18	—	1·75	8·1	—	·46	—	·91
·8	—	—	—	·03	·2	—	—	—	—
16·7	—	3·18	—	2·25	102·7	1·38	·46	—	4·36
102·6	—	—	—	3·15	106·2	—	—	—	4·71
—	—	—	—	—	—	—	—	—	—
119·3	—	—	—	11·89	54·0	—	—	—	4·78
162·3	—	5·56	1·59	18·62	45·7	—	·69	—	3·60
223·5	—	·80	—	16·28	145·0	—	—	—	10·31
505·1	—	6·36	1·59	46·79	244·7	—	·69	—	18·69
—	—	—	—	—	·2	·23	—	—	—
3·2	—	—	—	·07	5·3	—	—	—	·11
—	—	—	—	—	—	—	—	—	—
4·8	—	—	—	·29	9·5	·69	—	—	·31
22·3	—	1·59	3·18	2·50	17·6	—	2·08	1·85	2·18
18·3	—	—	—	1·80	12·7	—	·46	·23	·78
2·4	·80	1·59	·80	1·03	1·6	·46	1·16	·69	·46
13·5	—	·80	—	·78	9·2	—	—	—	·61
7·2	·80	—	—	·37	2·6	·69	—	·23	·12
—	—	—	—	—	1·2	·23	1·16	·92	·36
18·3	—	·80	·80	1·17	33·0	—	·69	·23	1·48
21·5	—	—	—	1·23	15·9	—	—	—	·55
7·9	—	·80	·80	1·27	6·0	·23	1·38	1·62	·91
31·8	1·59	·80	—	2·68	22·6	1·16	1·85	·92	1·42
61·3	—	·80	·80	2·94	78·5	·46	1·16	·46	3·41
58·1	—	—	·80	9·01	44·6	—	—	—	4·27
2·4	—	—	—	·83	3·9	·23	·46	·23	·55
149·6	—	3·18	3·18	10·87	131·4	—	·46	·46	8·06
10·3	—	—	—	·57	9·7	—	·69	·69	·60
23·1	—	—	—	1·16	38·6	—	—	—	1·38
81·1	—	—	—	2·98	98·8	—	—	—	4·23
—	—	—	—	—	·2	—	—	—	—
·8	·80	—	—	·05	5·3	2·08	—	—	·37
85·9	—	—	—	3·55	120·8	·46	·92	·69	4·81
—	—	—	—	—	—	—	—	—	—
·8	—	—	—	·01	3·5	—	—	—	·12
—	—	—	—	—	—	—	—	—	—
1249·0	3·98	19·89	11·93	97·34	1186·3	8·31	13·62	9·23	64·85
1196·1	7·28	22·78	—	55·82	—	—	—	—	—

five years 1886 to 1890 will be given in the Report for 1891; those for the six years that for 1892, &c., &c.

ABSTRACT No. XV.—TABLE showing the AVERAGE STRENGTH, ADMISSICK, among the Troops stationed in BENGAL during the Year 1890, with

Average Strength 41,143. Diseases.	Admissions into Hospital.	Deaths. In the Command.	Deaths. Of Invalids.	Deaths. Total.	Invalids. No. sent Home.	Invalids. No. finally discharged the Service.
I.—GENERAL DISEASES.						
GROUP "A."						
Sub-Group I. Small-pox	23	3	—	3	—	—
Other Eruptive Fevers	39	2	—	2	—	—
Enteric Fever	996	259	—	259	15	—
Other Continued Fevers	2,752	—	—	—	—	—
Yellow Fever	—	—	—	—	—	—
Cholera	50	41	—	41	—	—
Dysentery	1,112	30	1	31	38	11
Other Diseases	1,318	1	—	1	—	—
Total	6,290	336	1	337	53	11
Sub-Group II.—Malarial Fevers	16,888	16	—	16	75	15
Sub-Group III.—Septic Diseases	122	6	—	6	—	—
Sub-Group IV. Syphilis, Primary	4,376	—	—	—	1	—
" Secondary	2,478	3	—	3	82	36
Gonorrhœa	7,598	—	—	—	5	—
Total	14,452	3	—	3	88	36
Sub-Group V.—Hydrophobia, &c.	1	1	—	1	—	—
GROUP "B."						
Sub-Group I.—Parasitic Diseases	116	1	—	1	—	—
Sub-Group II. Scurvy	19	—	—	—	—	—
Alcoholism	340	3	—	3	—	—
GROUP "C."						
Debility, &c.	932	—	1	1	145	145
GROUP "D."						
Rheumatism	1,336	3	—	3	37	16
Tubercular Diseases	126	19	15	34	78	41
Other Diseases	321	5	—	5	15	9
II.—LOCAL DISEASES.						
Diseases of the—						
1. Nervous System Nervous Diseases	305	13	—	13	38	34
Mental "	62	—	—	—	49	57
2. Eye	575	—	—	—	28	30
3 & 4. Other Organs of Special Senses	656	—	—	—	47	46
5. Circulatory System	482	12	1	13	148	114
6. Respiratory "	1,909	66	6	72	32	15
7. Digestive "	5,391	68	4	72	90	39
8. Lymphatic and Glandular System	1,687	1	—	1	11	6
9. Urinary System	70	1	1	2	7	11
10. Generative "	5,355	1	—	1	10	12
11. Organs of Locomotion	274	—	—	—	28	29
12. Connective Tissue	844	—	—	—	6	1
13. Skin	2,523	—	—	—	8	4
III.—POISONS	6	3	—	3	—	—
IV.—INJURIES.						
1. General	96	44	—	44	6	—
2. Local	4,124	35	—	35	37	35
3. In Action	—	—	—	—	—	—
No appreciable disease	93	—	—	—	—	—
Details not obtainable	—	—	—	—	—	—
General Total	65,396	637	29	666	1,066	706
* Average of 10 years, 1880–89	—	—	—	—	—	—

† The average ratios for 10 years will be given in future years. The average ratios for the 1886 to 1891 in that for

SIONS into HOSPITAL, DEATHS, NUMBERS INVALIDED, and CONSTANTLY the Ratios per 1,000 of the Strength, and the average Ratios for 10 Years.*

Average Number constantly Sick.	Ratio per 1,000.					Average Ratio per 1,000 from 1886 to 1889.†				
	Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged	Constantly Sick.	Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged	Constantly Sick.
2·32	·6	·07	—	—	·06	1·2	·12	—	—	·14
1·76	1·0	·05	—	—	·04	3·0	—	—	—	·07
137·91	24·2	6·30	·36	—	3·35	19·0	5·15	·11	—	2·57
93·31	66·9	—	—	—	2·27	80·0	·06	·01	—	2·81
—	—	—	—	—	—	—	—	—	—	—
·55	1·2	1·00	—	—	·01	2·2	1·46	—	—	·07
70·04	27·0	·75	·92	·27	1·70	25·9	·66	·77	·07	1·65
34·09	32·0	·02	—	—	·83	·9	·01	—	—	·03
339·98	152·9	8·19	1·29	·27	8·26	132·2	7·46	·89	·07	7·34
492·86	410·5	·39	1·82	·36	11·98	355·9	·59	1·07	·11	10·67
8·96	3·0	·15	—	—	·22	1·6	·09	—	·01	·11
386·00	106·4	—	·02	—	9·38	97·2	—	·01	·01	7·31
240·78	60·2	·07	1·99	·88	5·85	35·9	·09	1·09	·45	3·27
546·96	184·7	—	·12	—	13·30	170·8	—	·05	—	11·70
1173·74	351·3	·07	2·14	·88	28·53	303·9	·09	1·15	·46	22·28
—	—	·02	—	—	—	—	·03	—	—	—
2·77	2·8	·02	—	—	·07	3·8	—	—	—	·10
·83	·5	—	—	—	·02	1·5	·01	·01	—	·07
12·61	8·3	·07	—	—	·31	14·5	·06	·02	·01	·44
63·79	22·7	·02	3·52	3·52	1·55	22·0	·03	2·71	1·22	1·43
89·96	32·5	·07	·90	·39	2·19	31·7	·07	·81	·30	2·01
35·96	3·1	·83	1·90	1·00	·87	3·7	·91	1·38	1·10	·71
20·31	7·8	·12	·36	·22	·49	12·3	·16	·46	·14	·77
18·47	7·4	·32	·92	·82	·45	10·0	·35	1·13	·81	·71
20·18	1·5	—	1·19	1·39	·49	1·5	—	1·09	1·14	·65
37·02	14·0	—	·68	·73	·90	14·2	—	·52	·54	·83
31·61	15·9	—	1·14	1·12	·77	13·9	·01	·72	·49	·65
51·79	11·7	·32	3·60	2·77	1·26	12·5	·38	3·03	2·02	1·17
114·15	46·4	1·75	·78	·36	2·77	37·5	·93	·73	·40	2·21
229·05	131·0	1·75	2·19	·95	5·57	149·1	1·79	1·93	·57	5·81
167·01	41·0	·02	·27	·15	4·06	22·8	·02	·39	·16	2·13
8·38	1·7	·05	·17	·27	·20	2·2	·16	·26	·13	·20
379·84	130·2	·02	·24	·29	9·23	94·6	·02	·27	·26	5·88
23·77	6·7	—	·68	·70	·58	7·0	·05	·67	·56	·53
42·23	20·5	—	·15	·02	1·03	21·5	·02	·09	·04	·96
104·04	61·3	—	·19	·10	2·53	70·3	—	·17	·05	2·83
·59	·1	·07	—	—	·01	·3	·12	—	—	·01
5·64	2·3	1·07	·15	—	·14	3·7	1·50	·11	·02	·18
185·87	100·2	·85	·90	·85	4·52	117·4	·90	·93	·58	4·92
—	—	—	—	—	—	—	·01	02	·03	—
5·43	2·2	—	—	—	·13	2·3	—	—	—	·10
1·41	—	—	—	—	·03	—	—	—	—	·01
3668·27	1589·5	16·18	25·18	17·16	89·16	1463·9	15·78	20·56	11·22	75·71
—	1548·2	16·20	26·01	13·48	72·56	—	—	—	—	—

five years, 1886 to 1890 will be given in the Report for 1891; those for the six years 1892, &c., &c.

ABSTRACT No. XVI.—TABLE, taken from the REPORT of the PRINCIPAL CLASSES of DISEASES in each of the MILITARY DISTRICTS in the BENGAL

Military Districts.	Presidency.		Allahabad.		Oudh.		Rohilkhand.		Nerbudda.	
Average Strength.	2,720		3,303		3,806		3,108		1,128	
Diseases.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.
I.—GENERAL DISEASES.										
GROUP "A."										
Sub-Group I. Small-pox	—	—	2	1	4	—	—	—	—	—
Other Eruptive Fevers	—	—	5	1	4	—	1	—	3	—
Enteric Fever	10	4	71	32	86	20	173	44	21	3
Other Continued Fevers	346	—	164	—	55	—	130	—	21	—
Yellow Fever	—	—	—	—	—	—	—	—	—	—
Cholera	1	1	5	4	18	13	8	7	—	—
Dysentery	121	1	70	1	168	5	137	3	52	1
Other diseases	146	—	263	—	295	—	192	—	30	—
Total	624	6	580	39	630	38	641	54	127	4
Sub-Group II.—Malarial Fevers	1,584	1	925	2	619	1	312	1	1,045	—
Sub-Group III.—Septic Diseases	3	—	5	1	2	—	9	—	1	—
Sub-Group IV. Syphilis, Primary	374	—	369	—	681	—	533	—	48	—
„ Secondary	250	—	282	—	201	1	283	1	90	—
Gonorrhœa	460	—	939	—	883	—	828	—	251	—
Total	1,084	—	1,590	—	1,764	1	1,644	1	389	—
Sub-Group V.—Hydrophobia, &c.	—	—	—	—	—	—	—	—	—	—
GROUP "B."										
Sub-Group I.—Parasitic Diseases	13	—	3	—	9	—	7	1	5	—
Sub-Group II. Scurvy	1	—	—	—	4	—	—	—	—	—
Alcoholism	41	—	68	1	19	—	10	—	5	—
GROUP "C."										
Debility, &c.	72	—	75	—	137	—	48	—	21	—
GROUP "D."										
Rheumatism	115	—	114	—	105	—	61	—	26	—
Tubercular Diseases	5	—	9	1	16	—	12	2	6	—
Other diseases	28	—	40	—	19	—	28	1	6	—
II.—LOCAL DISEASES.										
Diseases of the—										
1. Nervous System Nervous Diseases	20	1	14	—	56	1	26	1	2	—
Mental „	7	—	5	—	8	—	7	—	2	—
2. Eye	25	—	43	—	67	—	60	—	13	—
3 & 4. Other Organs of Special Senses	50	—	54	—	105	—	60	—	24	—
5. Circulatory System	64	—	25	1	75	2	49	—	33	—
6. Respiratory „	165	5	134	5	151	4	113	3	41	—
7. Digestive „	325	9	410	5	592	8	459	6	143	2
8. Lymphatic and Glandular System	129	1	232	—	95	—	89	—	65	—
9. Urinary System	6	—	8	—	7	—	2	—	4	—
10. Generative „	261	—	697	—	284	—	239	—	241	—
11. Organs of Locomotion	24	—	30	—	33	—	14	—	7	—
12. Connective Tissue	64	—	73	—	98	—	47	—	19	—
13. Skin	230	—	266	—	344	—	123	—	55	—
III.—POISONS.	—	2	—	1	—	—	—	—	2	—
IV.—INJURIES.										
1. General	3	5	23	5	2	2	2	—	2	1
2. Local	262	—	320	5	500	2	250	1	107	1
3. In Action	—	—	—	—	—	—	—	—	—	—
No appreciable disease	9	—	17	—	8	—	9	—	4	—
Cause unknown (refers to deaths only)	—	—	—	—	—	—	—	—	—	—
General Total	5,214	30	5,760	66	5,749	59	4,321	71	2,395	8

MEDICAL OFFICER, showing the PREVALENCE and MORTALITY of the DIFFERENT COMMAND, with the ratios per 1,000 of Strength during the year 1890.

Bundelkhand.		Meerut.		Sirhind.		Lahore.		Rawal Pindi.		Peshawar.		Quetta.		Marching.		Total.	
2,397		3,803		4,067		4,733		5,774		2,641		2,026		1,617		41,143	
Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.
2	—	0	2	—	—	—	—	1	—	3	—	1	—	—	—	23	3
8	—	9	1	1	—	3	—	5	—	—	—	—	—	—	—	39	2
85	27	131	38	86	17	81	26	181	40	11	2	45	5	15	1	996	259
53	—	407	—	340	—	656	—	306	—	251	—	3	—	20	—	2,752	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1	1	8	6	8	8	—	—	1	1	—	—	—	—	—	—	50	41
98	5	79	4	100	3	70	—	114	2	33	3	41	2	30	—	1,112	30
88	—	48	—	56	—	54	—	88	1	16	—	40	—	2	—	1,318	1
335	33	692	51	591	28	964	26	696	44	313	5	130	7	67	1	6,290	336
1,686	2	1,914	2	994	—	2,740	4	2,582	—	1,645	3	493	—	349	—	16,888	16
1	—	19	—	8	—	1	1	35	2	33	2	4	—	1	—	122	6
377	—	123	—	436	—	294	—	827	—	105	—	104	—	105	—	4,376	—
211	—	140	—	171	—	271	1	383	—	81	—	76	—	30	—	2,478	3
461	—	639	—	538	—	852	—	1,063	—	273	—	182	—	260	—	7,598	—
1,049	—	902	—	1,145	—	1,417	1	2,243	—	459	—	362	—	404	—	14,452	3
—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	1	1
10	—	9	—	8	—	18	—	22	—	9	—	3	—	—	—	116	1
—	—	8	—	—	—	4	—	—	—	—	—	2	—	—	—	19	—
12	2	30	—	20	—	15	—	73	—	20	—	25	—	2	—	340	3
35	—	125	—	65	—	206	—	93	—	32	—	8	—	15	—	932	—
68	1	179	2	150	—	137	—	209	—	60	—	84	—	28	—	1,236	3
7	—	8	2	17	5	11	2	18	3	8	3	6	1	3	—	126	19
7	—	24	—	41	1	19	1	73	—	13	1	17	1	6	—	321	5
13	1	27	2	38	4	34	1	42	1	14	1	15	—	5	—	305	13
5	—	2	—	3	—	4	—	8	—	9	—	1	—	1	—	62	—
30	—	61	—	62	—	63	—	87	—	34	—	17	—	13	—	575	—
26	—	74	—	29	—	63	—	53	—	57	—	23	—	8	—	656	—
13	1	82	3	35	1	38	1	39	2	16	1	11	—	3	—	462	13
99	1	133	13	99	4	243	8	395	16	105	4	185	3	47	1	1,909	66
315	3	574	8	457	7	721	9	730	6	259	—	330	5	76	—	5,391	62
94	—	178	—	221	—	177	—	245	—	95	—	32	—	35	—	1,687	1
2	—	9	—	5	—	11	—	6	1	6	—	2	—	2	—	70	1
205	—	733	—	379	—	589	—	572	1	764	—	148	—	244	—	5,355	1
7	—	41	—	18	—	17	—	42	—	10	—	17	—	14	—	274	—
80	—	74	—	69	—	94	—	105	—	64	—	36	—	21	—	844	—
164	—	325	—	179	—	239	—	300	—	186	—	74	—	36	—	2,523	—
—	—	1	—	—	—	1	—	2	—	—	—	—	—	—	—	6	3
18	3	12	3	2	3	17	3	2	5	10	6	3	1	—	2	96	44
246	1	497	4	372	4	345	5	663	7	275	1	187	1	100	3	4,124	35
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2	—	9	—	8	—	10	—	9	—	5	—	3	—	—	—	93	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4,527	48	6,740	89	5,015	57	8,099	68	9,374	83	4,501	27	2,218	19	1,482	7	65,395	637

Ratio per 1,000

Military Districts.	Presidency.		Allahabad.		Oudh.		Rohilkhand.		Nerbudda.		Bundelkhand.	
Average Strength.	2,720		3,303		3,806		3,108		1,128		2,597	
Diseases.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.
I.—GENERAL DISEASES.												
GROUP "A."												
Sub-Group I. Small-pox	—	—	·6	·30	1·1	—	—	—	—	—	·8	—
Sub-Group I. Other Eruptive Fevers	—	—	1·5	·30	1·1	—	·3	—	2·7	—	3·3	—
Sub-Group I. Enteric Fever	3·7	1·47	21·5	9·69	23·6	5·25	55·7	14·16	18·6	2·66	35·5	11·26
Sub-Group I. Other Continued Fevers	127·2	—	49·7	—	14·5	—	41·8	—	18·6	—	22·1	—
Sub-Group I. Yellow Fever	—	—	—	—	—	—	—	—	—	—	—	—
Sub-Group I. Cholera	·4	·37	1·5	1·21	4·7	3·42	2·6	2·25	—	—	·4	·42
Sub-Group I. Dysentery	44·5	·37	21·2	·30	44·1	1·31	44·1	·97	46·1	·89	40·9	2·69
Sub-Group I. Other Diseases	53·7	—	79·6	—	77·5	—	61·8	—	26·6	—	36·7	—
Total	229·4	2·21	175·6	11·81	165·5	9·98	206·2	17·37	112·6	3·55	139·8	13·77
Sub-Group II.—Malarial Fevers	582·3	·37	290·0	·61	162·6	·26	100·4	·32	926·4	—	703·4	·83
Sub-Group III.—Septic Diseases	1·1	—	1·5	·30	·5	—	2·9	—	·9	—	·4	—
Sub-Group IV. Syphilis, Primary	137·5	—	111·7	—	178·9	—	171·5	—	42·6	—	157·3	—
Sub-Group IV. „ Secondary	91·9	—	85·4	—	52·8	·26	91·1	·32	79·8	—	88·0	—
Sub-Group IV. Gonorrhœa	169·1	—	284·3	—	231·7	—	266·4	—	222·5	—	192·3	—
Total	398·5	—	481·4	—	463·5	·26	529·0	·32	344·9	—	437·6	—
Sub-Group V.—Hydrophobia, &c.	—	—	—	—	—	—	—	—	—	—	—	—
GROUP "B."												
Sub-Group I.—Parasitic Diseases	4·8	—	·9	—	2·4	—	2·3	·32	4·4	—	4·2	—
Sub-Group II. Scurvy	·4	—	—	—	1·1	—	—	—	—	—	—	—
Sub-Group II. Alcoholism	15·1	—	20·6	·30	5·0	—	3·2	—	4·4	—	5·0	·83
GROUP "C."												
Debility, &c.	26·5	—	22·7	—	36·0	—	15·4	—	18·6	—	14·6	—
GROUP "D."												
Rheumatism	42·3	—	34·5	—	27·6	—	19·6	—	23·0	—	28·4	·42
Tubercular Diseases	1·8	—	2·7	·30	4·2	—	3·9	·64	5·3	—	2·9	—
Other Diseases	10·3	—	12·1	—	5·0	—	9·0	·32	5·3	—	2·9	—
II.—LOCAL DISEASES.												
Diseases of the—												
1. Nervous System (Nervous Diseases)	7·3	·37	4·2	—	14·7	·26	8·4	·32	1·8	—	5·0	·42
1. Nervous System (Mental „)	2·6	—	1·5	—	2·1	—	2·3	—	1·8	—	2·1	—
2. Eye	9·2	—	13·0	—	17·6	—	19·3	—	11·5	—	12·5	—
3 & 4. Other Organs of Special Senses	18·4	—	16·3	—	27·6	—	19·3	—	21·3	—	10·8	—
5. Circulatory System	23·5	—	7·6	·30	19·7	·53	15·8	—	29·3	—	5·0	·42
6. Respiratory „	60·7	1·84	40·6	1·51	39·7	1·05	36·4	·97	36·3	—	41·3	·42
7. Digestive „	119·5	3·31	124·1	1·51	155·5	2·10	147·7	1·93	126·8	1·77	131·4	1·25
8. Lymphatic and Glandular System	47·4	·37	70·2	—	25·0	—	28·6	—	57·6	—	39·2	—
9. Urinary System	2·2	—	2·4	—	1·8	—	·6	—	3·5	—	·8	—
10. Generative „	96·0	—	211·0	—	74·6	—	76·9	—	213·7	—	85·5	—
11. Organs of Locomotion	8·8	—	9·1	—	8·7	—	4·5	—	6·2	—	2·9	—
12. Connective Tissue	23·5	—	22·1	—	25·7	—	15·1	—	16·8	—	33·4	—
13. Skin	84·6	—	80·5	—	90·4	—	39·6	—	49·0	—	68·4	—
III.—POISONS	—	·74	—	·30	—	—	—	—	1·8	—	—	—
IV.—INJURIES.												
1. General	1·1	1·84	7·0	1·51	·5	·53	·6	—	1·8	·89	7·5	1·25
2. Local	96·3	—	96·9	1·51	131·4	·53	80·4	·32	94·9	·89	102·6	·42
3. In Action	—	—	—	—	—	—	—	—	—	—	—	—
No appreciable disease	3·3	—	5·1	—	2·1	—	2·9	—	3·5	—	·8	—
Cause unknown (refers to deaths only)	—	—	—	—	—	—	—	—	—	—	—	—
General Total	1916·9	11·03	1743·9	19·98	1510·5	15·50	1390·3	22·84	2123·2	7·09	1888·6	20·03

of Mean Strength.

Meerut.		Sirhind.		Lahore.		Rawal Pindi.		Peshawar.		Quetta.		Marching.		Total.	
3,803		4,087		4,733		5,774		2,641		2,026		1,617		41,143	
Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.
2·6	·53	—	—	—	—	·2	—	1·1	—	·5	—	—	—	·6	·07
2·4	·28	·2	—	·6	—	·9	—	—	—	—	—	—	—	1·0	·05
34·4	9·99	21·0	4·16	17·1	5·49	31·4	6·93	4·2	·76	22·2	2·47	9·3	·62	24·2	6·30
107·0	—	83·2	—	138·6	—	53·0	—	95·0	—	1·5	—	12·4	—	66·9	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2·1	1·58	2·0	1·96	—	—	·2	·17	—	—	—	—	—	—	1·2	1·00
20·8	1·05	24·5	·73	14·8	—	19·7	·35	12·1	1·14	20·2	·99	18·6	—	27·0	·73
12·6	—	13·7	—	11·4	—	15·2	·17	6·1	—	19·7	—	1·2	—	32·0	·02
182·0	13·41	144·6	6·85	182·5	5·49	120·5	7·62	118·5	1·89	64·2	3·46	41·4	·62	152·9	8·17
503·3	·53	243·2	—	578·9	·85	447·2	—	622·9	1·14	243·3	—	215·8	—	410·5	·39
5·0	—	2·0	—	·2	·21	6·1	·35	12·5	·76	2·0	—	·6	—	3·0	·15
32·3	—	106·7	—	62·1	—	143·2	—	39·8	—	51·3	—	64·9	—	106·4	—
36·8	—	41·8	—	57·3	·21	66·3	—	30·7	—	37·5	—	24·1	—	60·2	·07
168·0	—	131·6	—	180·0	—	178·9	—	103·4	—	89·8	—	160·8	—	184·7	—
237·2	—	280·2	—	299·4	·21	388·5	—	173·8	—	178·7	—	249·8	—	351·3	·07
—	—	—	—	·2	·21	—	—	—	—	—	—	—	—	—	·02
2·4	—	2·0	—	3·8	—	3·8	—	3·4	—	1·5	—	—	—	2·8	·02
2·1	—	—	—	·8	—	—	—	—	—	1·0	—	—	—	·5	—
7·9	—	4·9	—	3·2	—	12·6	—	7·6	—	12·3	—	1·2	—	8·3	·07
32·9	—	15·9	—	43·5	—	16·1	—	12·1	—	3·9	—	9·3	—	22·7	—
47·1	·53	36·7	—	28·9	—	36·2	—	22·7	—	41·5	—	17·3	—	32·5	·07
3·1	·53	4·2	1·22	2·3	·42	3·1	·52	3·0	1·14	3·0	·49	1·9	—	3·1	·46
6·3	—	10·0	·24	4·0	·21	12·6	—	4·9	·38	8·4	·49	3·7	—	7·8	·12
7·1	·53	9·3	·98	7·2	·21	7·3	·17	5·3	·38	7·4	—	3·1	—	7·4	·32
·5	—	·7	—	·8	—	1·4	—	3·4	—	·5	—	·6	—	1·5	—
16·0	—	15·2	—	13·3	—	15·1	—	12·9	—	8·4	—	8·0	—	14·0	—
19·5	—	7·1	—	13·3	—	14·4	—	21·6	—	11·4	—	4·9	—	15·9	—
21·6	·79	8·6	·24	8·0	·21	6·8	·35	6·1	·38	5·4	—	1·9	—	11·7	·29
34·7	3·16	24·2	·98	51·3	1·69	68·4	2·77	39·8	1·51	91·3	1·48	29·1	·62	46·4	1·60
150·9	2·10	111·8	1·71	152·3	1·90	126·4	1·04	98·1	—	162·9	2·47	47·0	—	131·0	1·65
46·8	—	54·1	—	37·4	—	42·4	—	36·0	—	15·8	—	21·6	—	41·0	·02
2·4	—	1·2	—	2·3	—	1·0	·17	2·3	—	1·0	—	1·2	—	1·7	·02
192·5	—	92·7	—	124·4	—	99·1	·17	289·3	—	73·1	—	150·9	—	130·2	·02
10·8	—	4·4	—	3·6	—	7·3	—	3·8	—	8·4	—	8·7	—	6·7	—
19·5	—	16·9	—	19·9	—	18·2	—	24·2	—	17·8	—	13·0	—	20·5	—
85·5	—	43·8	—	50·5	—	52·0	—	70·4	—	36·5	—	23·5	—	61·3	—
·3	—	—	—	·2	—	·3	—	—	—	—	—	—	—	·1	·07
3·2	·79	·5	·73	3·6	1·69	·3	·87	3·8	2·27	1·5	·49	—	1·24	2·3	1·07
130·7	1·05	91·0	·98	72·9	1·06	114·8	1·21	104·1	·38	92·3	·49	61·8	1·86	100·2	·85
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2·4	—	2·0	—	2·1	—	1·6	—	1·9	—	1·5	—	—	—	2·2	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1772·3	23·40	1227·1	13·95	1711·2	14·37	1623·5	15·24	1704·3	10·22	1094·8	9·38	916·5	4·33	1589·5	15·48

ABSTRACT No. XVII.—TABLE, taken from the REPORT of the PRINCIPAL MEDICAL OFFICER, showing the ADMISSIONS and DEATHS which took place at the CHIEF STATIONS in the BENGAL COMMAND during the year 1890.

Districts.	Stations.	Average Annual Strength.	Admitted into Hospital.	Died in Command.	Ratio per 1,000 of Strength.		Ratio per 1,000 of Strength, 1880 to 1889.	
					Admissions.	Deaths.	Admissions.	Deaths.
PRESIDENCY	Fort William	1,111	2,212	10	1991·0	9·00	1334·9	13·23
	Dum-Dum	827	1,644	6	1987·9	7·26	1422·3	12·21
	Barrackpore	335	658	4	1964·2	11·94	1690·7	12·43
	Darjeeling	369	561	7	1520·3	18·97	1174·4	15·30
	Gnathong	78	139	3	1782·1	38·46	—	—
ALLAHABAD	Allahabad	855	1,384	18	1618·7	21·05	1797·9	23·69
	Fort Allahabad	213	408	5	1915·5	23·47	1610·5	16·23
	Cawnpore	757	1,294	19	1709·4	25·10	1475·1	15·97
	Dinapore	799	1,582	16	1980·0	20·03	1532·6	17·99
	Benares	391	629	4	1608·7	10·23	1597·5	27·95
	Chunar	93	202	2	2172·0	21·51	2460·1	42·53
	Fatehgarh	195	261	2	1338·5	10·26	2006·2	20·83
OUDH	Lucknow Military	2,489	3,775	47	1516·7	18·88	1325·0	14·90
	" Prison	40	84	4	2100·0	100·00	*1204·3	13·44
	Sitapur	416	508	3	1221·2	7·21	1396·7	20·98
	Fyzabad	861	1,382	5	1605·1	5·81	1592·9	12·27
ROHILKHAND	Bareilly	1,244	1,667	35	1340·0	28·14	1381·9	11·97
	Moradabad	66	94	—	1424·2	—	1833·6	16·53
	Shahjehanpur	334	617	3	1847·3	8·98	1502·2	13·61
	Ranikhet	979	1,222	25	1246·2	25·54	1121·4	11·55
	Chaubuttia	304	402	6	1322·4	19·74	1364·6	11·39
	Naini Tal	181	319	2	1762·4	11·05	1532·6	21·27
NERBUDDA	Jubbulpore	699	1,389	7	1987·1	10·01	1453·7	14·53
	Saugor	326	828	1	2539·9	3·07	1749·7	9·23
	Pachmarhi	103	178	—	1728·2	—	1654·9	9·83
BUNDELKHAND	Agra	1,063	1,615	24	1519·3	22·58	1633·4	13·69
	Jhansi	849	1,890	23	2226·1	25·91	2056·8	19·42
	Sipri	109	192	1	1761·5	9·17	†2146·2	18·28
	Nowgong	376	830	1	2207·4	2·66	1706·3	15·67
MEERUT	Meerut	1,753	3,622	38	2066·2	21·68	1739·2	15·07
	Muttra	409	773	12	1890·0	29·34	1825·1	15·83
	Delhi	312	586	9	1878·2	28·85	3284·6	18·67
	Roorkee	372	509	4	1368·3	10·75	1653·7	16·91
	Chakrata	814	974	19	1196·6	23·34	1215·9	9·00
	Landour	143	276	7	1930·1	48·95	1790·3	14·55
SIRHIND	Umballa	2,025	2,372	36	1171·4	17·78	1282·2	10·33
	Subathu	457	646	10	1413·6	21·88	1261·0	14·04
	Dagshai	786	1,192	7	1516·5	8·91	1074·6	9·59
	Jutogh	237	234	—	987·3	—	1302·3	9·12
	Solon	229	160	—	698·7	—	1129·1	8·50
	Kasauli	353	411	4	1164·3	11·33	1942·2	13·66
LAHORE	Meean Meer	916	2,131	24	2326·4	26·20	2663·7	30·48
	Fort Lahore	81	195	2	2407·4	24·69	2514·9	48·95
	Ferozepore	1,029	1,921	14	1866·9	13·61	1661·0	10·84
	Jullundur	812	1,077	12	1326·4	14·78	1443·5	16·45
	Mooltan	874	1,232	6	1409·6	6·86	1649·2	13·39
	Amritsar	215	506	3	2353·5	13·95	2501·0	17·29
	Bhagsu	74	141	1	1905·4	13·51	‡1177·1	12·07
	Dalhousie	732	896	6	1224·0	8·20	1541·0	10·13

* 8 years (1882-89). † 4 years (1886-89). ‡ 9 years (1881-89).

Districts.	Stations.	Average Annual Strength.	Admitted into Hospital.	Died in Command.	Ratio per 1,000 of Strength.		Ratio per 1,000 of Strength, 1880 to 1889.	
					Admissions.	Deaths.	Admissions.	Deaths.
RAWAL PINDI	Rawal Pindi	2,496	4,285	48	1716·7	19·23	1467·7	15·13
	Fort Attock	114	436	6	3824·6	52·63	2810·7	21·21
	Sialkot	1,098	2,215	17	2017·3	15·48	1394·6	15·24
	Campbellpore	262	510	3	1946·6	11·45	1423·8	18·06
	Murree	176	248	6	1409·1	34·09	1568·2	25·87
	Khyra Gully	71	74	—	1042·3	—	1370·6	15·18
	Bara Gully	58	59	1	1017·2	17·24	*1261·8	6·44
	Kalabagh	62	89	—	1435·5	—	*1321·0	14·40
	Kuldunnah	506	493	—	974·3	—	*1285·9	6·37
	Camp Gharial	265	321	1	1211·3	3·77	*864·7	9·94
	„ Thobba	385	390	2	1013·0	5·19	†1708·9	4·37
	„ Topa	104	159	3	1528·8	28·85	‡1103·8	6·40
	Ghora Dhaka	177	95	1	536·7	5·65	§730·8	10·99
PESHAWAR	Peshawar	1,528	2,640	13	1727·7	8·51	2262·7	17·15
	Nowshera	562	1,185	9	2108·5	16·01	1615·3	16·16
	Cherat	551	676	5	1226·9	9·07	1330·2	15·69
QUETTA	Quetta	2,026	2,218	19	1094·8	9·38	‖1237·3	15·87
MARCHING	Troops on the march	1,617	1,482	7	916·5	4·33	783·6	10·24

* 9 years (1881–89). † 6 years (1882, 1884, and 1886–89). ‡ 6 years (1884–89).
§ For 1889 only. ‖ 6 years (1881–82 and 1886–89).

ABSTRACT No. XVIII.—TABLE, taken from the REPORT of the PRINCIPAL MEDICAL OFFICER, showing the STATIONS in the BENGAL COMMAND at which the ADMISSIONS and DEATHS from ENTERIC FEVER took place in each of the four quarters of the year 1890.

(Compiled from the Weekly Returns.)

Districts.	Stations.	1st Quarter.		2nd Quarter.		3rd Quarter.		4th Quarter.		Total.	
		Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.
Presidency	Fort William	2	1	1	1	—	—	1	1	4	3
	Dum Dum	1	—	—	—	5	—	—	—	6	—
	Barrackpore	—	1	—	—	—	—	—	—	—	1
Allahabad	Allahabad	2	2	11	4	8	2	4	2	25	10
	Fort Allahabad	1	1	—	—	2	1	2	—	5	2
	Cawnpore	1	—	5	3	6	4	4	4	16	11
	Dinapore	1	1	4	1	5	1	4	1	14	4
	Benares	2	—	1	2	3	1	2	1	8	4
	Fatehgarh	2	—	1	1	—	—	—	—	3	1
Oudh	Lucknow	8	3	13	4	13	3	42	5	76	15
	Sitapur	2	1	2	2	—	—	—	—	4	3
	Fyzabad	—	—	3	2	1	—	2	—	6	2
Rohilkhand	Bareilly	28	10	1	1	14	9	55	5	98	25
	Shahjehanpur	1	—	—	—	5	1	—	—	6	1
	Ranikhet	5	—	17	4	26	9	3	—	51	13
	Chaubuttia	3	1	13	3	2	1	—	—	18	5
Nerbudda	Jubbulpore	3	1	9	—	—	1	3	1	15	3
	Saugor	—	—	—	—	4	—	2	—	6	—
Bundelkhand	Agra	2	—	1	1	37	11	5	4	45	16
	Jhansi	3	—	2	—	5	2	23	7	33	9
	Sipri	—	—	—	—	1	—	1	1	2	1
	Nowgong	—	—	—	—	2	—	3	1	5	1

Districts.	Stations.	1st Quarter.		2nd Quarter.		3rd Quarter.		4th Quarter.		Total.	
		Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.
Meerut	Meerut	15	3	18	6	14	5	17	6	64	20
	Muttra	2	1	4	1	1	1	2	—	9	3
	Delhi	2	—	3	1	—	—	1	—	6	1
	Roorkee	—	—	—	—	2	—	3	—	5	—
	Chakrata	—	—	26	7	17	6	1	—	44	13
	Landour	—	—	3	1	—	—	—	—	3	1
Sirhind	Umballa	9	—	1	1	7	4	10	3	27	8
	Subathu	—	—	4	1	27	6	3	1	34	8
	Dagshai	—	—	1	—	6	1	1	—	8	1
	Jutogh	1	—	6	—	6	—	—	—	13	—
	Solon	—	—	1	—	—	—	—	—	1	—
	Kasauli	—	—	2	—	1	—	—	—	3	—
Lahore	Meean Meer	3	1	2	1	6	5	3	—	14	7
	Port Lahore	—	—	1	1	—	—	—	—	1	1
	Ferozepore	3	2	3	1	14	6	3	1	23	10
	Jullundur	4	1	7	3	7	1	2	1	20	6
	Mooltan	—	—	5	1	2	—	1	—	8	1
	Amritsar	1	—	—	—	1	—	—	—	2	—
	Bhagsu	—	—	2	—	1	—	1	—	4	—
	Dalhousie	—	—	6	1	3	—	—	—	9	1
Rawal Pindi	Rawal Pindi	6	1	3	1	27	10	24	1	65	13
	Fort Attock	1	1	—	—	3	1	—	1	4	3
	Sialkot	10	2	19	3	27	3	25	7	81	15
	Campbellpore	—	—	6	1	—	—	—	—	6	1
	Murree	—	—	4	2	4	—	1	2	9	4
	Ghora Dhaka	—	—	1	—	—	—	—	—	1	—
	Bara Gully	—	—	—	—	1	—	—	—	1	—

Districts.	Stations.	1st Quarter.		2nd Quarter.		3rd Quarter.		4th Quarter.		Total.	
		Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.
Peshawar	Camp Gharial	—	—	2	1	—	—	—	—	2	1
	„ Thobba	—	—	4	—	1	1	1	—	6	1
	„ Topa	—	—	—	—	4	1	2	1	6	2
	Peshawar	—	—	1	1	1	—	2	—	4	1
	Nowshera	—	—	1	—	3	—	2	—	6	—
	Cherat	—	—	1	1	—	—	—	—	1	1
Quetta	Quetta	4	—	7	2	28	1	6	2	45	5
Marching	Troops on the March.	10	—	1	1	—	—	4	—	15	1
	Total	138	34	234	68	353	98	271	59	996	259

ABSTRACT No. XIX.—TABLE, taken from the REPORT of the PRINCIPAL MEDICAL OFFICER, showing the STATIONS in the BENGAL COMMAND at which the ADMISSIONS and DEATHS from CHOLERA took place in each of the four quarters of the year 1890.

(Compiled from the Weekly Returns.)

Districts.	Stations.	1st Quarter.		2nd Quarter.		3rd Quarter.		4th Quarter.		Total.	
		Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.
Presidency -	Fort William	—	—	—	—	1	1	—	—	1	1
Allahabad -	Fort Allahabad	1	1	—	—	—	—	—	—	1	1
	Dinapore -	—	—	—	—	1	—	1	1	2	1
	Chunar -	—	—	2	2	—	—	—	—		2
Oudh - -	Lucknow -	—	—	—	—	9	7	7	5	16	12
	Lucknow Military Prison.	—	—	—	—	2	1	—	—	2	1
Rohilkhand -	Shahjehanpur	—	—	—	—	—	—	1	1	1	1
	Ranikhet -	—	—	—	—	5	5	—	—	5	5
	Naini Tal -	—	—	—	—	2	1	—	—	2	1
Bundelkhand -	Agra - -	—	—	1	1	—	—	—	—	1	1
Meerut - -	Meerut - -	—	—	1	—	1	1	—	—	2	1
	Muttra - -	1	1	—	—	—	—	4	3	5	4
	Delhi - -	—	—	—	—	1	1	—	—	1	1
Sirhind - -	Umballa -	—	—	1	—	7	8	—	—	8	8
Rawal Pindi -	Fort Attock -	—	—	1	1	—	—	—	—	1	1
	Total -	2	2	6	4	29	25	13	10	50	41

ABSTRACT No. XX.—TABLE, taken from the REPORT of the PRINCIPAL MEDICAL OFFICER, showing the PREVALENCE of DYSENTERY, DIARRHŒA, and HEPATIC DISEASES (Congestion, Inflammation, and Abscess of Liver) in each of the DISTRICTS in the BENGAL COMMAND during the Year 1890.

Districts.	Presidency.		Allahabad.		Oudh.		Rohilkhand.		Nerbudda.		Bundelkhand.		Meerut.		Sirhind.		Lahore.		Rawal Pindi.		Peshawar.		Quetta.		Marching.		Total.	
Strength.	2,720		3,303		3,306		3,106		1,128		2,397		3,303		4,087		4,733		5,774		2,641		2,026		1,617		41,143	
Diseases.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.
Dysentery - -	121	1	70	1	168	5	137	3	52	1	98	5	79	4	100	3	70	—	114	2	32	3	41	2	30	—	1,112	30
Diarrhœa - - -	76	—	117	—	137	—	108	—	37	—	69	—	150	—	140	—	200	1	184	1	36	—	70	—	28	—	1,352	2
Hepatic Diseases -	60	7	76	5	127	7	105	5	23	1	76	3	48	3	84	6	114	7	64	3	15	—	22	4	11	—	825	51
Total - - -	257	8	263	6	432	12	350	8	112	2	243	8	277	7	324	9	384	8	362	6	83	3	133	6	69	—	3,289	83

Ratio per 1,000 of Mean Strength.

Dysentery - -	44·5	·37	21·2	·30	44·1	1·31	44·1	·97	46·1	·89	40·9	2·09	20·8	1·05	24·5	·73	14·8	—	19·7	·35	12·1	1·14	20·0	·99	18·6	—	27·0	·73
Diarrhœa - - -	27·9	—	35·4	—	36·0	—	34·7	—	32·8	—	28·8	—	39·4	—	34·3	—	42·3	·21	31·9	·17	13·6	—	34·6	—	17·3	—	32·9	·05
Hepatic Diseases -	22·1	2·57	23·0	1·51	33·4	1·84	33·8	1·61	20·4	·89	31·7	1·25	12·6	·79	20·6	1·47	24·1	1·48	11·1	·52	5·7	—	10·9	1·97	6·8	—	20·1	1·24
Total - - -	94·5	2·94	79·6	1·82	113·5	3·15	112·6	2·57	99·3	1·77	101·4	3·34	72·8	1·84	79·3	2·20	81·1	1·69	62·7	1·04	31·4	1·14	65·6	2·96	42·7	—	79·9	2·02

ABSTRACT No. XXI.—TABLE, taken from the REPORT of the PRINCIPAL MEDICAL OFFICER, showing the PREVALENCE and MORTALITY, in the Cantonments of the BENGAL COMMAND, due to DYSENTERY, DIARRHŒA, and HEPATIC DISEASES (Congestion, Inflammation, and Abscess of the Liver) in each Quarter of the Year 1890.

—	Strength.	Dysentery.				Diarrhœa.				Hepatic Diseases.				Total.			
		Number.		Ratio per 1,000 of Strength.		Number.		Ratio per 1,000 of Strength.		Number.		Ratio per 1,000 of Strength.		Number.		Ratio per 1,000 of Strength.	
		Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.
1st Quarter -	40,794	177	4	4·3	·10	196	—	4·8	—	178	10	4·4	·25	551	14	13·5	·34
2nd „ -	42,169	221	5	5·2	·12	266	—	6·3	—	201	10	4·8	·24	688	15	16·3	·36
3rd „ -	42,433	341	10	8·0	·24	552	2	13·0	·05	225	11	5·3	·26	1,118	23	26·3	·54
4th „ -	39,191	374	11	9·5	·28	341	—	8·7	—	222	20	5·7	·51	937	31	23·9	·79
Total -	41,147	1,113	30	27·0	·73	1,355	2	32·9	·05	826	51	20·1	1·24	3,294	83	80·1	2·02

N.B.—Compiled from the Weekly Returns.

ABSTRACT No. XXII.—TABLE showing the AVERAGE STRENGTH, ADMISSION SICK among the TROOPS stationed in MADRAS during the Year 1890, with

Average Strength 13,551. Diseases.	Admissions into Hospital.	Deaths. In the Command.	Deaths. Of Invalids.	Deaths. Total.	Invalids. Number sent Home.	Invalids. Number finally Discharged the Service.	Average Number Constantly Sick.
I.—GENERAL DISEASES.							
GROUP "A."							
Sub-Group I. Small-pox	6	—	—	—	—	—	·77
Other Eruptive Fevers	3	—	—	—	—	—	·09
Enteric Fever	126	49	—	49	2	—	13·48
Other Continued Fevers	746	1	—	1	—	—	29·25
Yellow Fever	—	—	—	—	—	—	—
Cholera	1	1	—	1	—	—	·02
Dysentery	558	9	1	10	12	3	36·55
Other Diseases	723	1	—	1	—	—	23·38
Total	2,163	61	1	62	14	3	103·47
Sub-Group II.—Malarial Fevers	3,481	11	1	12	19	4	112·54
Sub-Group III.—Septic Diseases	6	1	—	1	—	—	1·23
Sub-Group IV. Syphilis, Primary	2,050	—	—	—	—	—	180·11
" Secondary	1,234	2	—	2	71	14	128·17
Gonorrhœa	1,857	—	—	—	2	—	142·01
Total	5,141	2	—	2	73	14	450·29
Sub-Group V.—Hydrophobia, &c.	1		—	1	—	—	—
GROUP "B."							
Sub-Group I.—Parasitic Diseases	42	—	—	—	—	—	·78
Sub-Group II. Scurvy	2	—	—	—	—	—	·25
Alcoholism	91	—	—	—	—	—	2·92
GROUP "C."							
Debility, &c.	433	1	—	1	34	41	25·82
GROUP "D."							
Rheumatism	539	1	—	1	9	5	38·06
Tubercular Diseases	42	8	3	11	8	5	8·63
Other Diseases	124	1	—	1	7	3	10·01
II.—LOCAL DISEASES.							
Diseases of the—							
1. Nervous System Nervous Diseases	123	4	—	4	11	14	7·60
1. Nervous System Mental "	25	—	—	—	25	16	8·64
2. Eye	196	—	—	—	6	7	11·92
3 & 4. Other Organs of Special Senses	196	—	—	—	8	11	10·31
5. Circulatory System	107	3	—	3	23	24	11·66
6. Respiratory "	409	8	8	16	8	3	22·74
7. Digestive "	1,392	19	4	23	24	10	64·70
8. Lymphatic and Glandular System	990	—	—	—	10	1	120·91
9. Urinary System	32	1	—	1	2	6	2·41
10. Generative "	950	1	—	1	5	6	64·79
11. Organs of Locomotion	114	—	—	—	9	13	7·09
12. Connective Tissue	243	—	—	—	1	1	12·97
13. Skin	854	—	—	—	2	3	38·42
III.—POISONS	7	—	—	—	—	—	·15
IV.—INJURIES.							
1. General	30	27	—	27	2	—	1·29
2. Local	1,543	10	—	10	10	8	61·47
3. In Action	—	—	—	—	1	6	—
No appreciable disease	20	—	—	—	—	—	1·13
Cause unknown (refers to deaths only)	—	—	—	—	—	—	—
General Total	19,096	160	17	177	311	204	1203·20
*Average of 10 years 1880–89	—	—	—	—	—	—	—

† The average ratios for 10 years will be given in future years. The average ratios
years 1886 to 1891 in

SIONS into HOSPITAL, DEATHS, NUMBERS INVALIDED and CONSTANTLY the Ratios per 1,000 of the Strength, and the Average Ratios for 10 Years.*

Ratio per 1,000.					Average Ratio per 1,000 from 18 6 to 1889.†				
Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.	Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.
·4	—	—	—	·06	·8	·14	—	—	·05
·2	—	—	—	·01	1·8	—	—	—	·07
9·3	3·68	·15	—	·99	12·0	3·39	·04	—	1·44
55·1	·07	—	—	2·16	77·4	·08	·10	—	3·71
—	—	—	—	—	—	—	—	—	—
·1	·07	—	—	—	1·8	1·45	—	—	·03
41·2	·74	·89	·22	2·70	57·4	1·56	2·79	·34	4·58
53·3	·07	—	—	1·72	1·1	·04	—	—	·03
159·6	4·58	1·03	·22	7·64	152·3	6·66	2·93	·34	9·85
256·9	·89	1·40	·29	8·30	227·7	1·26	·63	·12	7·37
·4	·07	—	—	·09	·8	·04	—	—	·03
151·3	—	—	—	13·29	97·0	—	·02	—	8·35
91·1	·15	5·24	1·03	9·46	39·1	·10	2·47	1·09	4·21
137·0	—	·15	—	10·48	153·3	—	·06	—	11·03
379·4	·15	5·39	1·03	33·23	289·4	·10	2·55	1·09	23·59
·1	·07	—	—	—	—	—	—	—	—
3·1	—	—	—	·26	3·7	—	·02	—	·10
·1	—	—	—	·02	·1	—	—	—	·01
6·7	—	—	—	·31	12·9	·02	·02	—	·40
32·0	·07	2·51	3·03	1·90	32·2	·12	3·95	1·34	2·06
39·8	·07	·66	·37	2·81	28·0	·04	1·07	·35	1·87
3·1	·81	·89	·37	·64	3·1	·77	1·34	1·05	·61
9·1	·07	·53	·22	·74	10·1	·16	·65	·22	·66
9·1	·29	·81	1·03	·56	10·1	·43	1·36	·99	·69
1·8	—	1·84	1·18	·64	1·7	·04	1·34	1·72	·49
14·5	—	·44	·53	·98	13·2	—	·53	·73	·71
14·5	—	·59	·81	·76	12·7	—	·99	·75	·64
7·9	·22	1·70	1·77	·86	9·5	·51	2·85	1·72	·96
30·2	1·18	·59	·22	1·68	25·3	·73	1·11	·47	1·54
102·7	1·70	1·77	·74	4·77	159·9	2·87	3·53	1·07	7·43
73·1	—	·74	·07	8·92	46·9	·02	·45	·14	5·38
2·4	·07	·15	·44	·18	3·3	·08	·34	·13	·29
70·1	·07	·37	·44	4·78	99·6	·04	·44	·22	6·47
8·4	—	·66	·96	·52	5·7	·02	·79	·51	·43
17·9	—	·07	·07	·96	20·4	—	·20	·04	·98
63·0	—	·15	·22	2·84	76·2	·02	·10	·06	3·13
·5	—	—	—	·01	·6	·06	—	—	·02
2·2	1·99	·15	—	·09	2·3	1·80	·14	—	·13
99·1	·74	·74	·59	4·54	117·1	·79	1·05	·77	5·14
—	—	·07	·44	—	·8	·30	·20	·24	·08
1·5	—	—	—	·08	1·9	—	—	—	·06
—	—	—	—	—	—	—	—	—	—
1409·2	13·07	22·95	15·05	88·71	1367·5	16·88	28·37	14·06	81·37
1241·3	13·38	26·34	13·49	69·91	—	—	—	—	—

for the five years 1886 to 1890 will be given in the Report for 1891; those for the six that for 1892, &c., &c.

ABSTRACT No. XXIII.—TABLE, taken from the REPORT of the PRINCIPAL MEDICAL in each of the MILITARY DIVISIONS in the MADRAS

Military Divisions.	Madras District.		Southern. District.		Belgaum and Bangalore Districts.		Secunderabad District.		Rangoon District.		Myingyan and Mandalay Districts.		Depôts.		On the March.		Total.	
Average Strength	930		939		3,612		2,792		1,754		2,710		557		257		12,551	
Diseases.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.
I.—GENERAL DISEASES.																		
GROUP "A."																		
Sub-Group I. Small-pox	—	—	—	—	2	—	2	—	—	—	2	—	—	—	—	—	6	—
Sub-Group I. Other Eruptive Fevers	—	—	—	—	3	—	—	—	—	—	—	—	—	—	—	—	3	—
Sub-Group I. Enteric Fever	1	1	10	4	33	7	15	6	33	19	15	8	7	4	12	—	126	49
Sub-Group I. Other Continued Fevers	82	—	64	—	214	1	217	—	83	—	37	—	23	—	26	—	746	1
Sub-Group I. Yellow Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sub-Group I. Cholera	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Sub-Group I. Dysentery	31	2	38	—	85	—	72	—	157	2	124	2	37	3	14	—	558	9
Sub-Group I. Other Diseases	48	—	42	—	91	—	238	—	87	—	161	1	55	—	1	—	723	1
Total	163	4	154	4	428	8	544	6	360	21	339	11	122	7	53	—	2,163	61
Sub-Group II.—Malarial Fevers	100	—	73	—	840	1	86	—	597	2	1,554	6	125	2	106	—	3,481	11
Sub-Group III.—Septic Diseases	—	—	—	—	2	—	2	1	1	—	—	—	1	—	—	—	6	1
Sub-Group IV. Syphilis, Primary	122	—	168	—	562	—	445	—	305	—	322	—	111	—	15	—	2,050	—
Sub-Group IV. " Secondary	70	—	90	—	275	—	304	—	119	—	208	—	156	2	12	—	1,234	2
Sub-Group IV. Gonorrhœa	101	—	176	—	390	—	332	—	257	—	521	—	69	—	11	—	1,857	—
Total	293	—	434	—	1,227	—	1,081	—	681	—	1,051	—	336	2	38	—	5,141	2
Sub-Group V.—Hydrophobia, &c.	—	—	—	—	—	—	—	—	—	—	1	1	—	—	—	—	1	1
GROUP "B."																		
Sub-Group I.—Parasitic Diseases	14	—	8	—	11	—	2	—	4	—	3	—	—	—	—	—	42	—
Sub-Group II. Scurvy	—	—	1	—	—	—	—	—	1	—	—	—	—	—	—	—	2	—
Sub-Group II. Alcoholism	23	—	1	—	16	—	7	—	10	—	34	—	—	—	—	—	91	—
GROUP "C."																		
Debility, &c.	54	—	22	—	38	—	88	—	81	—	127	1	19	—	4	—	433	1
GROUP "D."																		
Rheumatism	28	—	35	—	161	—	89	—	84	1	101	—	38	—	3	—	539	1
Tubercular Diseases	4	1	1	—	9	1	6	1	1	—	7	3	14	1	—	1	42	8
Other Diseases	15	—	14	—	35	—	18	—	9	1	14	—	19	—	—	—	124	1
II.—LOCAL DISEASES.																		
Diseases of the—																		
1. Nervous System { Nervous Diseases	17	—	12	—	48	2	18	1	11	—	12	—	4	1	1	—	123	4
1. Nervous System { Mental "	5	—	—	—	5	—	6	—	2	—	6	—	1	—	—	—	25	—
2. Eye	11	—	16	—	67	—	26	—	16	—	57	—	3	—	—	—	196	—
3 & 4. Other Organs of Special Senses.	27	—	16	—	55	—	38	—	24	—	26	—	10	—	—	—	196	—
5. Circulatory System	14	—	5	—	24	1	29	1	13	—	13	1	9	—	—	—	107	3
6. Respiratory "	35	1	38	1	135	—	46	2	51	1	71	3	27	—	6	—	409	8
7. Digestive "	144	5	99	—	353	2	228	3	151	3	319	5	81	—	17	1	1,392	19
8. Lymphatic and Glandular System.	105	—	54	—	258	—	200	—	98	—	207	—	48	—	20	—	990	—
9. Urinary System	3	1	—	—	4	—	4	—	8	—	6	—	7	—	—	—	32	1
10. Generative "	122	—	62	—	142	—	198	—	78	—	312	1	30	—	6	—	950	1
11. Organs of Locomotion	13	—	7	—	39	—	11	—	10	—	26	—	6	—	2	—	114	—
12. Connective Tissues	21	—	26	—	48	—	54	—	32	—	47	—	3	—	12	—	243	—
13. Skin	131	—	69	—	181	—	92	—	136	—	195	—	42	—	8	—	854	—
III.—POISONS	3	—	2	—	—	—	1	—	—	—	1	—	—	—	—	—	7	—
IV.—INJURIES.																		
1. General	3	2	—	—	5	3	3	6	9	6	7	10	2	—	1	—	30	27
2. Local	126	3	94	—	390	2	269	2	130	1	282	2	30	—	22	—	1,343	10
3. In Action	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
No appreciable disease	2	—	1	—	6	—	8	—	1	—	2	—	—	—	—	—	20	—
Cause unknown (refers to deaths only).	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Total	1,476	17	1,244	5	4,527	20	3,154	23	2,599	36	4,820	44	977	18	299	2	19,096	160

OFFICER, showing the PREVALENCE and MORTALITY of the different Classes of DISEASES COMMAND, for the Year 1890, with the Ratio per 1,000 of the Strength.

Madras District.		Southern District.		Belgaum and Bangalore Districts.		Secunderabad District.		Rangoon District.		Myingyan and Mandalay Districts.		Depôts.		On the March.		Total.	
Ratio per 1,000 of Mean Strength.																	
Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.
—	—	—	—	0·55	—	0·72	—	—	—	0·74	—	—	—	—	—	0·44	—
—	—	—	—	0·83	—	—	—	—	—	—	—	—	—	—	—	0·22	—
1·08	1·08	10·65	4·26	9·14	1·94	5·37	2·15	18·81	10·83	5·53	2·95	12·57	7·18	46·69	—	9·30	3·62
88·17	—	68·16	—	59·25	0·28	77·72	—	47·32	—	13·65	—	41·29	—	101·17	—	55·05	0·07
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1·08	1·08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0·07	0·07
33·33	2·15	40·47	—	23·53	—	25·79	—	89·51	1·14	45·76	0·74	66·43	5·39	54·47	—	41·18	0·67
51·61	—	44·78	—	25·19	—	85·24	—	49·60	—	59·41	0·37	98·74	—	3·89	—	53·35	0·07
175·27	4·30	164·01	4·26	118·49	2·22	194·84	2·15	205·24	11·97	125·09	4·06	219·03	12·57	206·22	—	159·61	4·50
107·53	—	77·74	—	232·56	0·28	30·80	—	340·36	1·14	573·43	2·21	224·42	3·59	412·45	—	256·88	0·81
—	—	—	—	0·55	—	0·71	0·36	0·57	—	—	—	1·80	—	—	—	0·44	0·07
151·18	—	178·91	—	155·59	—	159·38	—	173·89	—	118·82	—	199·28	—	58·37	—	151·28	—
75·27	—	95·85	—	76·14	—	108·89	—	67·85	—	76·75	—	280·07	3·59	46·69	—	91·06	0·14
108·60	—	187·43	—	107·97	—	118·91	—	146·52	—	192·25	—	123·88	—	42·80	—	137·04	—
315·05	—	462·19	—	339·70	—	387·18	—	388·26	—	387·82	—	603·23	3·59	147·86	—	379·38	0·14
—	—	—	—	—	—	—	—	—	—	0·37	0·37	—	—	—	—	0·07	0·07
15·05	—	8·52	—	3·05	—	0·71	—	2·28	—	1·11	—	—	—	—	—	3·10	—
—	—	1·06	—	—	—	—	—	0·57	—	—	—	—	—	—	—	0·14	—
24·73	—	1·06	—	4·43	—	2·51	—	5·70	—	12·55	—	—	—	—	—	6·71	—
58·06	—	23·43	—	10·52	—	31·52	—	46·18	—	46·86	0·37	34·11	—	15·37	—	31·96	0·07
30·11	—	37·27	—	44·57	—	31·88	—	47·89	0·57	37·27	—	68·22	—	11·67	—	39·78	0·07
4·30	1·08	1·06	—	2·49	0·28	2·15	0·36	0·57	—	2·58	1·11	25·13	1·80	—	3·89	3·10	0·69
16·13	—	14·91	—	9·69	—	6·45	—	5·13	0·57	5·17	—	34·11	—	—	—	9·15	0·07
18·28	—	12·78	—	13·29	0·55	6·45	0·36	6·27	—	4·43	—	7·18	1·80	3·89	—	9·08	0·30
5·38	—	—	—	1·38	—	2·15	—	1·14	—	2·21	—	1·80	—	—	—	1·84	—
11·83	—	17·04	—	18·55	—	9·31	—	9·12	—	21·03	—	5·39	—	—	—	14·47	—
29·03	—	17·04	—	15·23	—	13·61	—	15·68	—	9·59	—	17·95	—	—	—	14·47	—
15·05	—	5·33	—	6·65	0·28	10·39	0·36	7·41	—	4·80	0·37	16·16	—	—	—	7·90	0·22
37·68	1·08	40·47	1·06	37·88	—	16·48	0·71	29·08	0·57	26·20	1·11	48·47	—	23·35	—	30·18	0·69
154·84	5·38	105·43	—	97·73	0·55	81·66	1·08	86·09	1·71	117·72	1·84	145·42	—	66·15	3·89	102·72	1·40
112·90	—	57·51	—	71·43	—	71·63	—	55·87	—	76·89	—	86·18	—	77·82	—	73·06	—
3·23	1·08	—	—	1·11	—	1·43	—	4·56	—	2·21	—	12·57	—	—	—	2·36	0·07
131·18	—	66·03	—	39·31	—	70·92	—	44·47	—	115·13	0·37	53·86	—	23·35	—	70·11	0·07
13·98	—	7·46	—	10·80	—	3·94	—	5·70	—	9·59	—	10·77	—	7·78	—	8·41	—
22·58	—	27·69	—	13·29	—	19·34	—	18·24	—	17·34	—	5·39	—	46·69	—	17·93	—
140·86	—	73·48	—	50·11	—	32·95	—	77·54	—	71·96	—	75·49	—	31·13	—	63·02	—
3·23	—	2·12	—	—	—	0·36	—	—	—	0·37	—	—	—	—	—	0·52	—
3·23	2·15	—	—	1·38	0·83	1·07	2·15	5·13	3·42	2·58	3·69	3·59	—	3·89	—	2·22	2·00
135·48	3·22	100·11	—	107·97	0·55	96·35	0·71	74·12	0·57	104·06	0·74	53·86	—	85·60	—	99·11	0·74
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2·15	—	1·06	—	1·66	—	2·87	—	0·57	—	0·74	—	—	—	—	—	1·48	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1587·10	18·28	1324·81	5·33	1253·32	5·54	1129·66	8·24	1481·75	20·52	1778·60	16·23	1754·04	23·34	1163·42	7·78	1409·19	11·80

ABSTRACT No. XXIV.—TABLE, taken from the REPORT of the PRINCIPAL MEDICAL OFFICER, showing the AVERAGE STRENGTH, AVERAGE CONSTANTLY SICK, ADMISSIONS, DEATHS, and INVALIDS at the different STATIONS and DISTRICTS in the MADRAS COMMAND, for the Year 1890.

Districts.	Stations.	Average Strength.	Average constantly Sick.	Admitted.	Died in and out of Hospital.	Invalided.	Ratio per 1,000 of Strength.					
							Average constantly Sick.	Admitted.	Died in and out of Hospital.	Invalided.	Average of previous Period of 10 Years.	
											Admitted.	Died.
Madras District	Madras and Pallaveram.	631	64	1,028	15	21	101·42	1629·16	23·77	33·28	1357·02	13·54
	St. Thomas' Mount	299	28	448	2	9	93·64	1498·33	6·69	30·10	1381·56	11·98
	Total	930	92	1,476	17	30	98·92	1587·10	18·28	32·26	—	—
Southern District	Wellington Regiment.	580	43	709	1	10	74·14	1222·41	1·72	17·24	1117·39*	6·36
	Cannanore	105	7	150	1	2	66·66	1428·57	9·52	19·05	992·20	6·79
	Calicut	101	9	167	3	—	89·11	1653·46	29·70	—	1077·29	4·89
	Malapuram	153	13	218	—	—	84·96	1424·83	—	—	1214·98	11·59
	Total	939	72	1,244	5	12	76·67	1324·81	5·33	12·78	—	—
Belgaum and Bangalore Districts	Bangalore	1,824	138	2,106	13	25	75·66	1154·61	7·13	13·71	1092·51	7·58
	Bellary	690	89	1,358	3	23	128·98	1968·11	4·35	33·33	1471·16	7·94
	Belgaum	1,047	69	1,034	4	30	65·90	987·58	3·82	28·65	1068·94†	5·49
	Ramandrug	51	1	29	—	—	19·61	568·62	—	—	590·16	—
	Total	3,612	297	4,527	20	78	82·22	1253·32	5·54	21·59	—	—
Secunderabad District	Secunderabad	2,792	226	3,154	23	41	80·94	1129·66	8·24	14·68	1100·06	12·54
Rangoon District	Rangoon	849	107	1,473	14	44	126·03	1734·98	16·49	51·83	1426·54	13·97
	Meiktila	204	19	315	1	—	93·13	1544·11	4·90	—	1687·50	19·23
	Toungoo	558	42	655	19	—	75·27	1173·83	34·05	—	1117·24	9·73
	Port Blair	143	5	156	2	—	34·96	1090·91	13·98	—	1010·91	7·27
	Total	1,754	173	2,599	36	44	98·63	1481·75	20·52	25·09	—	—

* Three years, 1887 to 1889. † Five years, 1885 to 1889.

ABSTRACT No. XXIV.—*continued.*

Districts.	Stations.	Average Strength.	Average constantly Sick.	Admitted.	Died in and out of Hospital.	Invalided.	Ratio per 1,000 of Strength.					
							Average constantly Sick.	Admitted.	Died in and out of Hospital.	Invalided.	Average of previous Period of 10 Years.	
											Admitted.	Died.
Myingyan and Mandalay Districts.	Mandalay - -	964	132	1,959	19	30	136·93	2032·15	19·71	31·12	2066·66*	34·16
	Bhamo - -	277	23	635	7	4	83·03	2292·42	25·27	14·44	3237·56	46·96
	Myingyan - -	308	29	479	5	5	94·15	1555·19	16·23	16·23	2158·02	63·68
	Shwebo - - -	402	24	753	5	12	59·70	1873·13	12·44	29·85	2099·17	14·46
	Bernardmyo -	143	9	209	3	4	62·94	1461·54	20·98	27·97	1121·95	20·90
	Thayetmyo -	616	46	785	5	16	74·67	1274·35	8·11	25·97	1244·64	12·45
	Total -	2,710	263	4,820	44	71	97·05	1778·60	16·23	26·20	—	—
Depôts - -	Poonamallee -	113	31	306	5	23	274·33	2707·96	44·24	203·54	2122·48	44·53
	Wellington -	444	42	671	8	12	94·59	1511·26	18·02	27·03	1174·30	9·82
	Total -	557	73	977	13	35	131·06	1754·04	23·34	62·84	—	—
Marching - -	On the March -	257	6	299	2	—	23·35	1163·42	7·78	—	1172·80	52·40

* Two years, 1888 to 1889.

ABSTRACT No. XXV.—TABLE, taken from the REPORT of the PRINCIPAL MEDICAL OFFICER, showing the STATIONS in the MADRAS COMMAND at which the ADMISSIONS and DEATHS from ENTERIC FEVER took place in each of the four quarters of the Year 1890.

Districts.	Stations.	1st Quarter.		2nd Quarter.		3rd Quarter.		4th Quarter.		Total.	
		Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.
Madras District	Madras	—	—	1	1	—	—	—	—	1	1
	Poonamallee	—	—	—	—	1	—	—	—	1	—
Southern District	Wellington	—	—	4	2	2	2	—	—	6	4
	Cannanore	—	—	3	—	—	1	—	—	3	1
	Calicut	—	—	3	1	4	2	—	—	7	3
Belgaum and Bangalore Districts	Bangalore	2	1	9	3	11	1	5	—	27	5
	Belgaum	—	—	—	—	5	1	—	—	5	1
	Bellary	—	—	—	—	1	1	—	—	1	1
Secunderabad District.	Secunderabad	5	4	—	—	5	1	5	1	15	6
Rangoon District	Rangoon	2	1	4	3	2	—	1	1	9	5
	Meiktila	—	—	1	—	—	—	—	—	1	—
	Toungoo	4	1	1	—	16	11	1	1	22	13
	Port Blair	—	—	—	—		—	1	1	1	1
Myingyan and Mandalay Districts	Mandalay	1	—	1	—	1	1	5	2	8	3
	Thayetmyo	—	—	1	1	1	—	—	—	2	1
	Bernardmyo	1	—	1	1	—	—	—	—	2	1
	Myingyan	—	—	2	2	—	—	1	1	3	3
	On the March	—	—	—	—	—	—	12	—	12	—
	Total	15	7	31	14	49	21	31	7	126	49

ABSTRACT No. XXVI.—TABLE, taken from the REPORT of the PRINCIPAL MEDICAL OFFICER, showing the STATIONS in the MADRAS COMMAND at which the ADMISSIONS and DEATHS from CHOLERA took place in each of the four quarters of the Year 1890.

Districts.	Stations.	1st Quarter.		2nd Quarter.		3rd Quarter.		4th Quarter.		Total.	
		Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.
Madras District	Madras	—	—	—	—	1	1	—	—	1	1
	Total	—	—	—	—	1	1	—	—	1	1

ABSTRACT No. XXVII.—TABLE, taken from the REPORT of the PRINCIPAL MEDICAL OFFICER, showing the prevalence of DYSENTERY, DIARRHŒA, and HEPATITIS in each of the DISTRICTS in the MADRAS COMMAND for 1890.

Districts.	Madras District.		Southern. District.		Belgaum and Bangalore Districts.		Secunderabad District.		Rangoon District.		Myingyan and Mandalay Districts.		On the March.		Total.	
Strength.	1,043		1,383		3,612		2,792		1,754		2,710		257		13,551	
Diseases.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.
Dysentery	53	4	53	1	85	—	72	—	157	2	124	2	14	—	558	9
Diarrhœa	8	—	16	—	22	—	39	—	33	—	107	—	5	—	230	—
Hepatitis and Abscess of Liver	21	1	16	—	40	2	20	3	33	3	31	5	1	1	162	15
Total	82	5	85	1	147	2	131	3	223	5	262	7	20	1	950	24
Ratio per 1,000 of Strength.																
Dysentery	50·82	3·83	38·32	0·72	23·54	—	25·79	—	89·51	1·14	45·76	0·74	54·48	—	41·18	0·66
Diarrhœa	7·67	—	11·57	—	6·09	—	13·97	—	18·81	—	39·49	—	19·45	—	16·97	—
Hepatitis and Abscess of Liver	20·13	0·96	11·57	—	11·07	0·55	7·16	1·07	18·81	1·71	11·43	1·84	3·89	3·89	11·95	1·11
Total	78·62	4·79	61·46	0·72	40·70	0·55	46·92	1·07	127·13	2·85	96·68	2·58	77·82	3·89	70·10	1·77

ABSTRACT No. XXVIII.—TABLE, taken from the REPORT of the PRINCIPAL MEDICAL OFFICER, showing the PREVALENCE and MORTALITY in the MADRAS COMMAND, due to DYSENTERY, DIARRHŒA, and HEPATITIS, in each Quarter of the Year 1890.

—	Strength.	Dysentery.				Diarrhœa.				Hepatitis (including Abscess of Liver).				Total.			
		Number.		Ratio per 1,000 of Strength.		Number.		Ratio per 1,000 of Strength.		Number.		Ratio per 1,000 of Strength.		Number.		Ratio per 1,000 of Strength.	
		Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.
1st Quarter -	12,877	96	—	7·46	—	46	—	3·57	—	42	4	3·26	0·31	184	4	14·29	0·31
2nd „ -	13,805	139	5	10·07	0·36	104	—	7·53	—	36	1	2·61	0·07	279	6	20·21	0·43
3rd „ -	13,998	201	1	14·36	0·07	47	—	3·36	—	44	7	3·15	0·50	292	8	20·87	0·57
4th „ -	13,525	122	3	9·02	0·22	33	—	2·44	—	40	3	2·96	0·22	195	6	14·42	0·44
Total for the Year	13,551	558	9	41·18	0·66	230	—	16·97	—	162	15	11·95	1·11	950	24	70·10	1·77

ABSTRACTS XXIX. to XXXV.

ABSTRACT No. XXIX.—TABLE showing the AVERAGE STRENGTH, ADMISSION SICK among the TROOPS stationed in BOMBAY during the Year 1890, with

Average Strength, 12,762. Diseases.	Admissions into Hospital.	Deaths. In the Command.	Deaths. Of Invalids.	Deaths. Total.	Invalids. Number sent Home.	Invalids. Number finally Discharged the Service.	Average Number Constantly Sick.
I.—GENERAL DISEASES.							
GROUP "A."							
Sub-Group I. Small-pox	7	1	—	1	—	—	·57
Other Eruptive Fevers	4	—	—	—	—	—	·03
Enteric Fever	131	24	—	24	1	—	18·82
Other Continued Fevers	724	—	—	—	—	—	29·08
Yellow Fever	—	—	—	—	—	—	—
Cholera	7	7	—	7	—	—	·17
Dysentery	252	7	1	8	6	1	15·78
Other Diseases	247	—	—	—	—	—	5·16
Total	1,372	39	1	40	7	1	69·66
Sub-Group II.—Malarial Fevers	3,729	5	—	5	18	2	100·06
Sub-Group III.—Septic Diseases	15	2	—	2	—	—	·84
Sub-Group IV. Syphilis, Primary	2,782	—	—	—	—	—	222·28
„ Secondary	766	1	—	1	45	21	65·45
Gonorrhœa	2,254	—	—	—	5	1	159·24
Total	5,802	1	—	1	50	22	446·97
Sub-Group V.—Hydrophobia, &c.	—	—	—	—	—	—	—
GROUP "B."							
Sub-Group I.—Parasitic Diseases	34	—	—	—	—	—	·96
Sub-Group II. Scurvy	6	—	—	—	—	—	·25
Alcoholism	74	1	—	1	—	—	1·86
GROUP "C."							
Debility, &c.	316	—	—	—	64	43	20·97
GROUP "D."							
Rheumatism	339	1	—	1	12	3	19·54
Tubercular Diseases	52	11	4	15	18	11	6·17
Other Diseases	139	1	1	2	9	3	9·12
II.—LOCAL DISEASES.							
Diseases of the—							
1. Nervous System Nervous Diseases	143	4	—	4	18	16	9·12
Mental „	39	—	—	—	19	15	4·92
2. Eye	161	—	—	—	8	10	8·99
3 & 4. Other Organs of Special Senses	192	—	—	—	20	17	11·38
5. Circulatory System	130	2	—	2	32	35	10·74
6. Respiratory „	434	11	2	13	12	5	24·04
7. Digestive „	1,452	16	2	18	32	14	58·97
8. Lymphatic and Glandular System	549	—	—	—	3	3	52·02
9. Urinary System	19	1	—	1	5	2	2·91
10. Generative „	545	—	—	—	2	3	31·84
11. Organs of Locomotion	87	—	—	—	17	13	9·45
12. Connective Tissue	235	—	—	—	1	1	10·67
13. Skin	716	—	—	—	5	1	30·26
III.—POISONS	9	2	—	2	—	—	·48
IV.—INJURIES.							
1. General	24	19	—	19	—	1	·85
2. Local	1,314	6	—	6	16	15	50·91
3. In Action	—	—	—	—	—	—	—
No appreciable disease	19	—	—	—	—	—	1·55
Cause unknown (refers to deaths only)	—	—	—	—	—	—	—
General Total	17,846	122	10	132	368	236	995·50
* Average of 10 years, 1880–89	—	—	—	—	—	—	—

† The average ratios for 10 years will be given in future years. The average ratios for the five in that for

SIONS into HOSPITAL, DEATHS, NUMBERS INVALIDED and CONSTANTLY the Ratios per 1,000 of the Strength and the Average Ratios for 10 Years.*

Ratio per 1,000.					† Average Ratio per 1,000 from 1886 to 1889.				
Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.	Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.
·5	·08	—	—	·04	1·5	·08	—	—	·12
·3	—	—	—	·01	·6	·02	—	—	·05
10·3	1·88	·08	—	1·48	13·9	4·41	·02	—	1·71
56·7	—	—	—	2·28	87·1	·13	·06	—	3·43
—	—	—	—	—	—	—	—	—	—
·5	·55	—	—	·01	1·7	1·19	—	—	·02
19·8	·62	·47	·08	1·24	21·5	·76	1·04	·25	1·44
19·4	—	—	—	·40	·2	—	—	—	·01
107·5	3·13	·55	·08	5·46	126·5	6·60	1·12	·25	6·79
292·2	·39	1·41	·16	7·84	328·3	·47	1·08	·06	10·13
1·2	·16	—	—	·07	·8	·06	·02	—	·04
218·0	—	—	—	17·41	109·9	—	—	—	8·46
60·0	·08	3·53	1·64	5·13	36·3	·02	1·55	·70	3·22
176·6	—	·39	·08	12·48	167·1	—	·15	·04	11·16
454·6	·08	3·92	1·72	35·02	313·3	·02	1·70	·74	22·84
—	—	—	—	—	—	·04	—	—	—
2·7	—	—	—	·08	4·9	—	·06	—	·16
·5	—	—	—	·02	1·3	—	·06	—	·07
5·8	·08	—	—	·15	9·5	·23	·02	—	·26
24·8	—	5·01	3·37	1·64	31·7	·02	5·09	1·42	1·90
26·6	·08	·94	·24	1·53	24·9	·06	1·10	·36	1·71
4·1	1·17	1·41	·86	·48	3·7	·81	1·63	1·27	·60
10·9	·16	·70	·24	·71	16·2	·15	·85	·15	·27
11·3	·31	1·41	1·25	·71	10·5	·33	1·17	·70	·59
3·1	—	1·49	1·17	·39	3·7	—	1·19	1·46	·43
12·6	—	·62	·78	·70	15·9	—	1·06	·91	1·83
15·0	—	1·57	1·33	·89	14·8	—	1·23	·74	·79
10·2	·16	2·51	2·74	·84	14·7	·40	3·33	1·85	1·41
34·0	1·02	·94	·39	1·88	26·5	·62	1·08	·33	1·73
113·8	1·41	2·51	1·10	4·62	133·3	1·68	2·33	·57	5·39
43·0	—	·24	·24	4·08	26·2	·04	·28	·15	2·52
1·5	·08	·39	·16	·23	2·2	·17	·30	·21	·20
42·7	—	·16	·24	2·49	65·9	·04	·38	·25	3·74
6·8	—	1·33	1·02	·74	6·2	·04	·62	·45	·49
18·4	—	·08	·08	·84	18·3	—	·02	—	·77
56·1	—	·39	·08	2·37	74·8	—	·17	—	3·06
·7	·16	—	—	·04	·5	·02	—	—	·01
1·8	1·49	—	·08	·07	2·5	1·32	·13	·19	·13
95·1	·47	1·25	1·17	3·99	108·4	·76	·87	·47	4·38
—	—	—	—	—	—	—	—	·06	—
1·5	—	—	—	·12	1·4	—	—	—	·05
—	—	—	—	—	—	—	—	—	—
1396·4	10·35	28·83	18·49	78·00	1387·4	13·88	26·91	12·88	72·19
1473·9	16·16	33·85	13·73	67·20	—	—	—	—	—

years, 1886 to 1890, will be given in the Report for 1891; those for the six years, 1886 to 1891, 1892, &c., &c.

ABSTRACT No. XXX.—TABLE taken from the REPORT of the PRINCIPAL MEDICAL in each of the ADMINISTRATIVE CIRCLES in the BOMBAY COMMAND,

Districts.	Bombay, Deesa, & Aden.		Sind.		Poona.		Mhow.		Nag-pur.		Troops on the March.		Total.	
Average Strength	3,247		1,351		3,931		2,900		964		369		12,763	
Diseases.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.
I.—GENERAL DISEASES.														
GROUP "A."														
Sub-Group I. Small-pox	6	1	—	—	1	—	—	—	—	—	—	—	7	1
Other Eruptive Fevers	3	—	—	—	2	—	—	—	—	—	—	—	5	—
Enteric Fever	18	2	16	2	33	5	39	12	24	3	1	—	131	24
Other Continued Fevers	287	—	100	—	271	—	36	—	5	—	24	—	723	—
Yellow Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cholera	—	—	—	—	—	—	7	7	—	—	—	—	7	7
Dysentery	92	1	50	2	42	2	63	2	1	—	4	—	252	7
Other Diseases	23	—	64	—	11	—	95	—	54	—	—	—	247	—
Total	429	4	230	4	360	7	240	21	84	3	29	—	1,372	39
Sub-Group II.—Malarial Fevers	1,010	2	287	—	443	1	1,375	—	572	2	42	—	3,729	5
Sub-Group III.—Septic Diseases	5	1	3	—	2	1	5	—	—	—	—	—	15	2
Sub-Group IV. Syphilis, Primary	376	—	270	—	1,290	—	368	—	414	—	64	—	2,782	—
" Secondary	191	1	83	—	306	—	97	—	85	—	4	—	766	1
Gonorrhœa	586	—	185	—	779	—	476	—	196	—	32	—	2,254	—
Total	1,153	1	538	—	2,375	—	941	—	695	—	100	—	5,802	1
Sub-Group V.—Hydrophobia, &c.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
GROUP "B."														
Sub-Group I.—Parasitic Diseases	7	—	2	—	13	—	6	—	6	—	—	—	34	—
Sub-Group II. Scurvy	3	—	1	—	1	—	—	—	1	—	—	—	6	—
Alcoholism	29	—	33	1	5	—	4	—	3	—	—	—	74	1
GROUP "C."														
Debility, &c.	113	—	45	—	97	—	50	—	9	—	2	—	316	—
GROUP "D."														
Rheumatism	102	1	31	—	84	—	97	—	19	—	6	—	339	1
Tubercular Diseases	21	5	4	—	10	—	15	4	2	2	—	—	52	11
Other Diseases	48	—	12	—	40	1	25	—	13	—	1	—	139	1
II.—LOCAL DISEASES.														
Diseases of the—														
1. Nervous System (Nervous Diseases)	57	—	17	—	26	1	26	1	11	2	6	—	143	4
1. Nervous System (Mental ")	23	—	3	—	6	—	7	—	—	—	—	—	39	—
2. Eye	49	—	9	—	58	—	37	—	5	—	3	—	161	—
3 & 4. Other Organs of Special Senses	44	—	43	—	51	—	46	—	7	—	1	—	193	—
5. Circulatory System	33	1	27	—	36	1	29	—	4	—	1	—	130	2
6. Respiratory "	125	4	76	1	126	1	92	5	8	—	7	—	434	11
7. Digestive "	400	8	235	3	350	3	385	2	57	—	25	—	1,452	16
8. Lymphatic and Glandular System	158	—	58	—	196	—	67	—	64	—	6	—	549	—
9. Urinary System	4	—	2	—	10	1	3	—	—	—	—	—	19	1
10. Generative "	212	—	59	—	55	—	177	—	21	—	21	—	545	—
11. Organs of Locomotion	18	—	9	—	27	—	26	—	5	—	2	—	87	—
12. Connective Tissues	73	—	27	—	64	—	49	—	15	—	7	—	235	—
13. Skin	228	—	91	—	154	—	185	—	56	—	2	—	716	—
III.—POISONS	6	1	—	—	1	—	2	1	—	—	—	—	9	2
IV.—INJURIES.														
1. General	7	5	3	3	—	3	3	3	11	3	—	2	24	19
2. Local	345	1	192	1	277	1	322	1	70	2	8	—	1,214	6
3. In Action	—	—	—	—	—	—	—	—	—	—	—	—	—	—
No appreciable disease	4	—	2	—	4	—	6	—	3	—	—	—	19	—
Cause unknown (refers to deaths only)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Total	4,706	34	2,039	13	4,871	21	4,220	38	1,741	14	269	2	17,846	122

OFFICER showing the PREVALENCE and MORTALITY of the Different Classes of DISEASE with the Ratios per 1,000 of the Strength for the Year 1890.

Bombay, Deesa, and Aden.		Sind.		Poona.		Mhow.		Nagpur.		Troops on the March.		Total.	
Ratio per 1,000 of mean Strength.													
Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.
1·8	·31	—	—	·2	—	—	—	—	—	—	—	·5	·08
·9	—	—	—	·5	—	—	—	—	—	—	—	·4	—
5·5	·62	11·8	1·48	8·4	1·27	13·4	4·14	24·9	3·11	2·7	—	10·3	1·88
88·4	—	74·0	—	68·9	—	12·4	—	5·2	—	65·0	—	56·6	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	2·4	2·41	—	—	—	—	·5	·55
28·3	·31	37·0	1·48	10·7	·51	21·7	·69	1·0	—	10·8	—	19·7	·55
7·1	—	47·4	—	2·8	—	32·7	—	56·0	—	—	—	19·3	—
132·1	1·23	170·2	2·96	91·6	1·78	82·7	7·24	87·1	3·11	78·6	—	107·5	3·05
311·1	·62	212·4	—	112·7	·25	474·1	—	593·3	2·07	113·8	—	292·2	·39
1·5	·31	2·2	—	·5	·25	1·7	—	—	—	—	—	1·2	·16
115·8	—	199·8	—	328·2	—	126·9	—	429·4	—	173·4	—	218·0	—
58·8	·31	61·4	—	77·8	—	33·4	—	88·2	—	10·8	—	60·0	·08
180·5	—	136·9	—	198·2	—	164·1	—	203·3	—	86·7	—	176·6	—
355·1	·31	398·2	—	604·2	—	324·4	—	720·9	—	271·0	—	454·6	·08
—	—	—	—	—	—	—	—	—	—	—	—	—	—
2·1	—	1·5	—	3·3	—	2·1	—	6·2	—	—	—	2·7	—
·9	—	·7	—	·2	—	—	—	1·0	—	—	—	·5	—
8·9	—	24·4	·74	1·3	—	1·4	—	3·1	—	—	—	5·8	·08
34·8	—	33·3	—	24·7	—	17·2	—	9·3	—	5·4	—	24·7	—
31·4	·31	22·9	—	21·4	—	33·4	—	19·7	—	16·3	—	26·6	·08
6·5	1·54	3·0	—	2·5	—	5·2	1·38	2·1	2·07	—	—	4·1	·86
14·8	—	8·9	—	10·2	·25	8·6	—	13·5	—	2·7	—	10·9	·08
17·5	—	12·6	—	6·6	·25	9·0	·34	11·4	2·07	16·3	—	11·2	·31
7·1	—	2·2	—	1·5	—	2·4	—	—	—	—	—	3·0	—
15·1	—	6·7	—	14·7	—	12·7	—	5·2	—	8·1	—	12·6	—
13·5	—	31·8	—	12·9	—	15·9	—	7·3	—	2·7	—	15·0	—
10·2	·31	20·0	—	9·1	·25	10·0	—	4·1	—	2·7	—	10·2	·16
38·5	1·23	56·2	·74	32·0	·25	31·7	1·72	8·3	—	19·0	—	34·0	·86
123·2	2·46	173·9	2·22	89·0	·76	132·7	·69	59·1	—	67·7	—	113·8	1·26
48·7	—	42·9	—	49·9	—	23·1	—	66·4	—	16·3	—	43·0	—
1·2	—	1·5	—	2·5	·25	1·0	—	—	—	—	—	1·5	·08
65·3	—	43·7	—	14·0	—	61·0	—	21·8	—	56·9	—	42·7	—
5·5	—	6·7	—	6·9	—	9·0	—	5·2	—	5·4	—	6·8	—
22·5	—	20·0	—	16·3	—	16·9	—	15·5	—	19·0	—	18·4	—
70·2	—	67·3	—	39·2	—	63·8	—	58·1	—	5·4	—	56·1	—
1·8	·31	—	—	·2	—	·7	·34	—	—	—	—	·7	·16
2·1	1·54	2·2	2·22	—	·76	1·0	1·03	11·4	3·11	—	5·42	1·9	1·49
106·3	·31	142·1	·74	70·5	·25	111·0	·34	72·6	2·07	21·7	—	95·1	·47
—	—	—	—	—	—	—	—	—	—	—	—	—	—
1·2	—	1·5	—	1·0	—	2·1	—	3·1	—	—	—	1·5	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—
1449·3	10·47	1509·2	9·62	1239·1	5·34	1455·0	13·10	1806·0	14·52	729·0	5·42	1398·3	9·56

ABSTRACT No. XXXI.—The following TABLE taken from the REPORT of the PRINCIPAL MEDICAL OFFICER shows the ADMISSIONS and DEATHS which took place in the PRINCIPAL STATIONS in the BOMBAY COMMAND during the Year 1890.

Divisions and Districts.	Stations.	Annual Average Strength.	Number of Admissions.	Number of Deaths.	Ratio per 1,000 of the Strength.			
					Admissions.	Deaths.	Average of 10 Years, 1880–89. Admissions.	Deaths.
Bombay, Deesa, and Aden	Colaba	979	1,464	9	1495·4	9·19	1349·9	14·49
	Deolalee	834	1,129	16	1353·7	19·18	1177·6	17·74
	Aden	782	1,187	6	1517·9	7·67	1115·1	14·13
	Ahmedabad	219	392	—	1789·9	—	1871·4	15·77
	Deesa	851	333	2	948·7	5·70	1610·9	11·79
	Butcher's Island	7	17	—	2428·6	—	—	—
Sind	Karachi	927	1,817	11	1420·7	11·87	1997·6	19·46
	Hyderabad	424	722	2	1702·8	4·72	1615·0	9·35
Poona	Poona	2,083	2,267	11	1088·3	5·28	1298·6	9·47
	Kirkee	751	783	2	1042·6	2·66	1234·4	7·37
	Ahmednagar	660	1,201	7	1819·7	10·61	1758·4	14·93
	Satara	229	255	—	1113·5	—	1553·6	6·43
Mhow	Mhow	1,489	2,556	19	1716·6	12·76	1677·2	11·73
	Nasirabad	791	979	14	1237·7	17·70	1616·5	17·52
	Neemuch	469	472	3	1006·4	6·39	1873·3	18·65
	Indore	109	174	1	1596·3	9·17	2005·5	20·13
	Khundwa	2	1	—	500·0	—	—	—
Nagpur	Kamptee	910	1,575	11	1730·8	12·01	*1537·7	14·48
	Sitabuldi	51	129	2	2529·4	39·21	*1157·9	17·54
	Sanitaria	326	624	4	1914·1	12·27	1784·5	15·95
	On the march	369	269	2	729·0	5·42	657·5	18·71
	Total	12762	17846	122	1398·3	9·56	—	—

* For one year only.

ABSTRACT No. XXXII.—TABLE taken from the REPORT of the PRINCIPAL MEDICAL OFFICER showing the STATIONS in the BOMBAY COMMAND at which the ADMISSIONS and DEATHS from ENTERIC FEVER took place in each of the Four Quarters of the Year 1890.

Divisions and Districts.	Stations.	1st Quarter.		2nd Quarter		3rd Quarter.		4th Quarter.		Total.	
		Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.
Bombay, Deesa, and Aden	Colaba	2	—	1	1	—	—	—	—	3	1
	Deolalee	3	—	—	—	—	—	—	—	3	—
	Aden	1	—	1	—	—	—	—	—	2	—
	Ahmedabad	3	—	—	—	—	—	—	—	3	—
	Deesa	4	1	—	—	3	—	—	—	7	1
Sind	Karachi	5	1	—	—	3	1	8	—	16	2
Poona	Poona	4	—	2	—	13	1	6	1	25	2
	Kirkee	—	—	—	—	1	—	—	—	1	—
	Ahmednagar	2	1	2	—	3	2	—	—	7	3
Mhow	Mhow	3	1	7	3	10	1	4	1	24	6
	Nasirabad	4	2	1	—	3	—	3	2	11	4
	Neemuch	—	—	—	—	1	1	—	—	1	1
	Indore	—	—	—	—	2	—	—	—	2	—
	Taragarh	—	—	—	—	1	1	—	—	1	1
Nagpur	Kamptee	4	—	—	—	16	2	2	1	22	3
	Sitabuldi	—	—	—	—	2	—	—	—	2	—
	Troops moving	1	—	—	—	—	—	—	—	1	—
	Total	36	6	14	4	58	9	23	5	131	24

ABSTRACT No. XXXIII.—TABLE taken from the REPORT of the PRINCIPAL MEDICAL OFFICER showing the STATIONS in the BOMBAY COMMAND at which the ADMISSIONS and DEATHS from CHOLERA took place in each of the Four Quarters of the Year 1890.

Divisions and Districts.	Stations.	1st Quarter.		2nd Quarter.		3rd Quarter.		4th Quarter.		Total.	
		Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.
Mhow	Mhow	—	—	3	3	—	—	—	—	3	3
	Nasirabad	—	—	1	1	2	2	—	—	3	3
	Indore	—	—	—	—	1	1	—	—	1	1
	Total	—	—	4	4	3	3	—	—	7	7

ABSTRACT No. XXXIV.—Table taken from the REPORT of the PRINCIPAL MEDICAL OFFICER showing the PREVALENCE of DYSENTERY, DIARRHŒA, HEPATITIS, and ABSCESS OF LIVER in each DISTRICT in the BOMBAY COMMAND for the Year 1890.

Districts.	Bombay, Deesa, and Aden.		Sind.		Poona.		Mhow.		Nagpur.		On the March.		Total.	
Strength.	8,247		1,351		3,931		2,900		964		369		12,762	
Diseases.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.
Dysentery - -	92	1	50	2	42	2	63	2	1	—	4	—	252	7
Diarrhœa - -	89	—	70	—	99	—	101	1	19	—	13	—	391	1
Hepatitis and Abscess of Liver.	63	8	11	2	35	1	57	1	7	—	2	—	175	12
Total -	244	9	131	4	176	3	221	4	27	—	19	—	818	20
Ratio per 1,000 of Strength.														
Dysentery - -	28·3	·31	37·0	1·48	10·7	·51	21·7	·69	1·0	—	10·8	—	19·7	·55
Diarrhœa - -	27·4	—	51·8	—	25·2	—	34·8	·34	19·7	—	35·2	—	30·6	·08
Hepatitis and Abscess of Liver.	19·4	2·46	8·1	1·48	8·9	·25	19·6	·34	7·8	—	5·4	—	13·7	·94
Total -	75·1	2·77	97·0	2·96	44·8	·76	76·2	1·38	28·0	—	51·5	—	64·1	1·57

ABSTRACT No. XXXV.—TABLE taken from the REPORT of the PRINCIPAL MEDICAL OFFICER showing the PREVALENCE and MORTALITY in the BOMBAY COMMAND, due to DYSENTERY, DIARRHŒA, HEPATITIS, and ABSCESS OF LIVER in each Quarter of the Year 1890.

Quarter.	Strength.	Dysentery.				Diarrhœa.				Hepatitis and Abscess of Liver.				Total.			
		Number.		Ratio per 1,000 of the Strength.		Number.		Ratio per 1,000 of the Strength.		Number.		Ratio per 1,000 of the Strength.		Number.		Ratio per 1,000 of the Strength.	
		Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.
1st Quarter -	13,237	58	2	4·4	·15	90	—	6·8	—	39	9	2·9	·68	187	11	14·1	·83
2nd „ -	12,282	38	1	3·1	·08	69	1	5·6	·08	33	—	2·7	—	140	2	11·4	·16
3rd „ -	12,228	90	3	7·4	·24	154	—	12·6	—	46	—	3·8	—	290	3	23·7	·24
4th „ -	13,302	66	1	5·0	·07	78	—	5·9	—	57	3	4·3	·22	201	4	15·1	·30
Total - -	12,762	252	7	19·7	·55	391	1	30·6	·08	175	12	13·7	·94	818	20	64·1	1·57

ABSTRACT No. XXXVI.—TABLE showing the AVERAGE STRENGTH, SICK among the TROOPS stationed in EGYPT during the Year 1890, with

Average Strength, 3,209. Diseases.	Admissions into Hospital.	Deaths. In the Command.	Deaths. Of Invalids.	Deaths. Total.	Invalids. Number sent Home.	Invalids. Number finally Discharged the Service.	Average Number Constantly Sick.
I.—GENERAL DISEASES.							
GROUP "A."							
Sub-Group I. Small-pox	—	—	—	—	—	—	—
Other Eruptive Fevers	3	—	—	—	—	—	·20
Enteric Fever	123	23	—	23	7	—	21·83
Other Continued Fevers	208	—	—	—	1	—	12·58
Yellow Fever	—	—	—	—	—	—	—
Cholera	—	—	—	—	—	—	—
Dysentery	102	2	—	2	—	—	5·74
Other Diseases	48	—	—	—	—	—	1·02
Total	544	25	—	25	8	—	41·37
Sub-Group II.—Malarial Fevers	13	—	—	—	—	—	·54
Sub-Group III.—Septic Diseases	5	1	—	1	—	—	·21
Sub-Group IV. Syphilis, Primary	265	—	—	—	—	—	21·34
" Secondary	134	—	—	—	2	4	10·68
Gonorrhœa	321	—	—	—	—	—	18·20
Total	720	—	—	—	2	4	50·22
Sub-Group V.—Hydrophobia, &c.	—	—	—	—	—	—	—
GROUP "B."							
Sub-Group I.—Parasitic Diseases	3	—	—	—	—	—	·07
Sub-Group II. Scurvy	—	—	—	—	—	—	—
Alcoholism	15	—	—	—	—	—	·40
GROUP "C."							
Debility, &c.	29	—	—	—	6	8	3·68
GROUP "D."							
Rheumatism	95	1	—	1	1	—	6·79
Tubercular Diseases	8	2	1	3	5	2	2·50
Other Diseases	19	—	—	—	1	—	1·61
II.—LOCAL DISEASES.							
Diseases of the—							
1. Nervous System Nervous Diseases	18	1	—	1	1	2	1·17
Mental "	4	—	—	—	3	4	·75
2. Eye	100	—	—	—	3	2	4·94
3 & 4. Other Organs of Special Senses	50	—	—	—	1	2	2·83
5. Circulatory System	61	1	—	1	10	10	7·34
6. Respiratory "	93	—	—	—	3	2	4·93
7. Digestive "	444	3	—	3	6	3	17·66
8. Lymphatic and Glandular System	67	—	—	—	3	1	7·56
9. Urinary System	3	—	—	—	1	—	·55
10. Generative "	233	—	—	—	1	—	19·02
11. Organs of Locomotion	27	—	—	—	1	1	2·27
12. Connective Tissue	126	—	—	—	—	—	6·49
13. Skin	201	—	—	—	—	—	8·03
III.—POISONS	5	—	—	—	—	—	·04
IV.—INJURIES.							
1. General	1	3	—	3	—	—	·19
2. Local	287	2	—	2	2	1	14·61
3. In Action	—	—	—	—	—	1	·06
No appreciable disease	6	—	—	—	—	—	·36
Cause unknown (refers to deaths only)	—	—	—	—	—	—	—
General Total	3,177	39	1	40	58	43	206·19
* Average of 7 years, 1883-89	—	—	—	—	—	—	—

† The average ratios for 10 years will be given in future years. The average ratios for the five in that

ADMISSIONS into HOSPITAL, DEATHS, NUMBERS INVALIDED and CONSTANTLY the Ratios per 1,000 of the Strength, and the Average Ratios for 10 Years.*

Ratio per 1,000.					† Average Ratio per 1,000 from 1886 to 1889.				
Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.	Admissions.	Deaths.	Invalids sent Home.	Invalids finally Discharged.	Constantly Sick.
—	—	—	—	—	5·7	·74	—	—	·58
·9	—	—	—	·06	1·9	—	—	—	·14
38·3	7·17	2·18	—	6·80	48·7	13·50	14·28	·04	7·45
83·5	—	·31	—	3·92	166·9	—	2·63	—	6·22
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
31·8	·62	—	—	1·79	57·1	2·29	5·11	·35	4·50
15·0	—	—	—	·33	2·1	·04	—	—	·10
169·5	7·79	2·49	—	12·89	276·4	16·57	22·07	·39	18·99
4·0	—	—	—	·17	12·8	—	·43	·04	·63
1·6	·31	—	—	·07	2·1	·13	·09	—	·13
83·6	—	—	—	6·65	65·8	—	·17	—	5·24
41·8	—	·62	1·25	3·33	25·6	—	·91	·35	2·19
100·0	—	—	—	5·67	98·0	—	·09	—	5·93
224·4	—	·62	1·25	15·65	189·4	—	1·17	·35	13·36
—	—	—	—	—	—	—	—	—	—
·9	—	—	—	·02	4·7	·04	—	—	·11
—	—	—	—	—	·2	—	—	—	·01
4·7	—	—	—	·12	7·0	·09	·94	—	·25
9·0	—	1·87	2·49	1·15	37·8	—	7·31	2·90	2·25
29·6	·31	·31	—	2·13	23·0	·22	1·64	·35	1·53
2·5	·94	1·56	·62	·78	3·6	·74	2·55	1·99	·73
5·9	—	·31	—	·50	10·8	·04	·22	·13	·60
5·6	·31	·31	·62	·36	7·6	·48	1·56	1·25	·49
1·2	—	·94	1·25	·23	1·8	·04	1·64	2·12	·29
31·2	—	·94	·62	1·54	84·6	—	·99	·48	2·10
15·6	—	·31	·62	·88	13·5	—	·65	·60	·65
19·0	·31	3·13	3·13	2·29	15·0	·30	5·15	5·11	1·48
29·0	—	·94	·62	1·54	32·1	1·08	1·64	1·04	2·33
126·4	·94	1·87	·94	5·50	159·6	1·90	3·89	·95	6·34
20·9	—	·94	·31	2·36	23·8	—	·48	·13	2·81
·9	—	·31	—	·17	2·2	·04	·26	·22	·13
72·6	—	·31	—	5·93	87·3	—	·26	·30	5·64
8·4	—	·31	·31	·71	6·1	—	·52	·60	·46
39·3	—	—	—	2·03	25·6	—	·35	·09	1·22
62·6	—	—	—	2·50	54·5	—	·30	—	2·54
1·6	—	—	—	·01	·2	·17	—	—	—
·3	·94	—	—	·06	3·8	2·12	·26	·04	·23
89·4	·62	·62	·31	4·55	91·2	1·04	1·30	·78	4·14
—	—	—	·31	·02	—	·09	·35	·22	·11
1·9	—	—	—	·11	4·1	—	—	—	·13
—	—	—	—	—	—	—	—	—	—
990·0	12·47	18·07	13·40	64·25	1150·8	25·09	54·82	20·06	69·63
1240·4	25·66	78·99	27·15	73·87	—	—	—	—	—

years 1886 to 1890 will be given in the Report for 1891; those for the six years 1886 to 1891 for 1892, &c., &c.

ABSTRACT No. XXXVII.—TABLE showing the AVERAGE STRENGTH, SHIP proceeding on and returning from Foreign Service, and proceeding Strength during the Year 1890.

Strength of W.O., N.C.O., and Men:	Passage Out.		Passage Home.	
Embarked	18,786		12,206	
Average Annual Strength	1,269		891	
	Admitted.	Died.	Admitted.	Died.
I.—GENERAL DISEASES.				
GROUP "A."				
Sub-Group I. Small-pox	—	—	—	—
Other Eruptive Fevers	1	—	—	—
Enteric Fever	2	1	—	—
Other Continued Fevers	15	—	29	—
Yellow Fever	—	—	—	—
Cholera	—	—	—	—
Dysentery	1	—	14	3
Other Diseases	7	—	9	—
Total	26	1	52	3
Sub-Group II.—Malarial Fevers	3	—	192	1
Sub-Group III.—Septic Diseases	1	—	3	—
Sub-Group IV. Syphilis, Primary	234	—	247	—
" Secondary	59	—	42	—
Gonorrhœa	425	—	188	—
Total	718	—	477	—
Sub-Group V.—Hydrophobia, &c.	—	—	—	—
GROUP "B."				
Sub-Group I.—Parasitic Diseases	—	—	—	—
Sub-Group II. Scurvy	1	—	1	—
Alcoholism	3	—	3	—
GROUP "C."				
Debility, &c.	11	—	13	—
GROUP "D."				
Rheumatism	31	2	28	—
Tubercular Diseases	—	—	—	—
Other Diseases	20	—	2	—
II.—LOCAL DISEASES.				
Diseases of the—				
1. Nervous System Nervous Diseases	5	—	4	—
Mental "	—	—	2	—
2. Eye	9	—	9	—
3 & 4. Other Organs of Special Senses	7	—	6	—
5. Circulatory System	4	1	5	1
6. Respiratory "	123	5	151	4
7. Digestive "	149	—	60	3
8. Lymphatic and Glandular System	33	—	44	—
9. Urinary System	3	—	3	—
10. Generative "	142	—	42	—
11. Organs of Locomotion	4	—	5	—
12. Connective Tissue	30	—	17	—
13. Skin	178	—	60	—
III.—POISONS.	1	—	—	—
IV.—INJURIES.				
1. General	5	1	1	—
2. Local	91	—	65	—
3. In Action	—	—	—	—
No appreciable disease	3	—	1	—
Cause unknown (refers to deaths only)	—	—	—	—
General Total	1,601	19	1,246	12

ADMISSIONS into HOSPITAL, and DEATHS among the TROOPS ON BOARD from one Colony or Station abroad to another, with the Ratio per 1,000 of the

Intercolonial.		Ratio per 1,000 o ithe Strength.					
6,772 256		Passage Out.		Passage Home.		Intercolonial.	
Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.
—	—	—	—	—	—	—	—
—	—	·8	—	—	—	—	—
1	1	1·6	·79	—	—	3·9	3·91
17	—	11·8	—	32·6	—	66·4	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
13	—	·8	—	15·7	3·37	50·8	—
10	—	5·5	—	10·1	—	39·1	—
41	1	20·5	·79	58·4	3·37	160·2	3·91
11	—	2·4	—	215·5	1·12	43·0	—
—	—	·8	—	3·4	—	—	—
90	—	184·4	—	277·2	—	351·5	—
13	—	46·5	—	47·2	—	50·8	—
96	—	334·9	—	211·0	—	375·0	—
199	—	565·8	—	535·4	—	777·3	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	·8	—	1·1	—	—	—
1	—	2·4	—	3·4	—	3·9	—
3	—	8·7	—	14·6	—	11·7	—
9	—	24·4	1·57	31·4	—	35·1	—
3	—	—	—	—	—	11·7	—
6	—	15·8	—	2·2	—	23·4	—
2	—	3·9	—	4·5	—	7·8	—
—	—	—	—	2·2	—	—	—
4	—	7·1	—	10·1	—	15·6	—
1	—	5·5	—	6·7	—	3·9	—
—	—	3·1	·79	5·6	1·12	—	—
13	1	26·9	3·94	169·5	4·49	50·8	3·91
30	—	117·4	—	67·3	3·37	117·2	—
13	—	26·0	—	49·4	—	50·8	—
1	—	2·4	—	3·4	—	3·9	—
26	—	111·9	—	47·1	—	109·4	—
—	—	3·1	—	5·6	—	—	—
10	—	23·6	—	19·1	—	39·1	—
20	—	140·3	—	67·3	—	78·2	—
—	—	·8	—	—	—	—	—
—	—	3·9	·79	1·1	—	—	—
24	—	71·7	—	73·0	—	93·7	—
—	—	—	—	—	—	—	—
—	—	2·4	—	1·1	—	—	—
—	—	—	—	—	—	—	—
419	2	1261·6	7·88	1398·4	13·47	1636·7	7·82

ABSTRACT No. XXXVIII.—On the Influence of Age on the Mortality.—Table showing the Death Rates of the Warrant Officers, Non-commissioned Officers and Men, at the several Ages, arranged by quinquennial Periods, in the several Foreign Commands.

Commands.	Under 20 Years.				20 and under 25.				25 and under 30.				30 and under 35.				35 and under 40.				40 and upwards.			
	Strength.	Died.	Ratio per 1,000.		Strength.	Died.	Ratio per 1,000.		Strength.	Died.	Ratio per 1,000.		Strength.	Died.	Ratio per 1,000.		Strength.	Died.	Ratio per 1,000.		Strength.	Died.	Ratio per 1,000.	
			1890.	1880-89.			1890.	1880-89.			1890.	1880-89.			1890.	1880-89.			1890.	1880-89.			1890.	1880-89.
Gibraltar	349	1	2·86	4·09	2,136	8	3·74	4·52	1,693	4	2·36	6·01	365	2	5·48	7·99	84	—	—	8·76	32	—	—	28·75
Malta	595	5	8·40	6·66	3,493	28	8·02	8·46	2,283	21	9·20	6·86	472	3	6·35	8·32	157	2	12·74	14·92	55	1	18·18	16·56
Cyprus	16	—	—	5·51	101	1	9·90	9·92	339	—	—	5·50	40	—	—	17·35	16	2	125·00	25·38	6	—	—	—
Egypt	186	1	5·38	14·67*	1,938	29	14·96	27·00*	803	8	9·96	18·68*	196	1	5·10	17·19*	68	—	—	19·84*	18	—	—	46·34*
Canada	33	—	—	1·66	878	3	3·42	2·74	330	1	3·03	4·64	92	1	10·87	8·15	25	2	80·00	14·45	23	—	—	17·60
Bermuda	136	3	22·06	5·00	888	9	10·13	8·73	374	2	5·35	11·44	101	2	19·80	9·12	36	1	27·78	11·16	11	1	90·91	27·03
West Indies	51	—	—	6·78	565	3	5·31	14·26	319	4	12·54	14·19	81	2	24·69	14·20	25	—	—	19·77	3	—	—	29·70
South Africa and St. Helena	100	—	—	6·94†	1,301	7	5·38	7·62†	1,221	7	5·73	7·26†	214	3	14·02	7·87†	91	2	21·98	6·59†	34	—	—	17·80†
Mauritius	6	—	—	—	252	1	3·97	12·24	212	5	23·58	15·33	35	—	—	15·87	11	1	90·91	15·79	—	—	—	51·28
Ceylon	24	—	—	5·92	541	4	7·39	10·45	371	1	2·69	15·27	59	1	16·95	16·57	28	1	35·71	12·42	5	—	—	33·06
China	30	—	—	—	687	3	4·37	8·53‡	528	4	7·57	13·09‡	72	2	27·78	14·89‡	24	1	41·67	10·75‡	5	—	—	—
Straits Settlements	22	1	45·45	—	720	2	2·78	7·29‡	402	2	4·97	6·93‡	98	—	—	6·98‡	13	—	—	9·34‡	2	—	—	26·32‡
India	1,885	10	5·30	9·26	30,879	491	15·90	16·09	24,677	301	12·20	15·54	5,927	79	13·33	16·50	2,102	19	9·04	17·41	530	19	35·85	23·42

* For seven years only (1883 to 1889). † For eight years only (1882 to 1889). ‡ For five years only (1885 to 1889).

ABSTRACT No. XXXIX.—TABLE showing the various CORPS which served in the UNITED KINGDOM during the Year 1890, and some of the most important of their HEALTH STATISTICS.

Battery or Battalion.	Corps.	Average Annual Strength.	Admitted into Hospital.	Died.	Invalided.	Average Constantly Sick.	Ratio per 1,000 of Mean Strength. Admitted.	Died.	Invalided.	Average Constantly Sick.	Sick Time to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year, &c.	Years at Home since last return from Foreign Service.
	HOUSEHOLD CAVALRY.										days.	days.		
1st	Life Guards	407	339	1	11	11·68	832·9	2·45	27·02	28·69	10·47	12·57	London, 9 months; Windsor, 3 months; Detachment at Aldershot.	74
2nd	Life Guards	429	331	2	9	14·67	771·5	4·66	20·98	34·19	12·48	16·17	London, 12 months; Detachment at Aldershot.	74
	Royal Horse Guards	379	229	2	9	12·48	604·2	5·27	23·74	32·93	12·02	19·89	London, 3 months; Windsor, 9 months; Detachment at Aldershot.	74
	Household Cavalry detached	3	—	—	—	—	—	—	—	—	—	—	Hythe.	—
	Total Household Cavalry	1,218	899	5	29	38·83	738·1	4·10	23·81	31·88	11·63	15·76		
	CAVALRY.													
4th	Dragoon Guards	526	457	5	11	19·13	868·8	9·50	20·91	36·37	13·27	15·27	Dublin, 3 months; Detachments at Gort and Ballinrobe. Curragh, 9 months.	8
5th	Dragoon Guards	617	464	4	10	32·87	784·4	6·48	16·20	53·27	19·44	24·79	Dublin, 3 months; Preston, 2 months; Aldershot, 7 months.	34
6th	Dragoon Guards	412	423	2	2	21·48	1026·7	4·85	4·85	52·13	19·03	18·53	Leeds, 12 months. Detachments at Birmingham and Altcar.	2
1st	Royal Dragoons	609	474	2	13	24·09	778·3	3·28	21·34	39·55	14·39	18·55	Colchester, 12 months. Aldershot for manœuvres.	34
2nd	Royal Dragoons	633	490	2	9	27·13	919·3	3·75	16·88	50·90	15·64	20·21	Newry, 6 months; Detachments at Belfast; Curragh, 6 months.	34
3rd	Hussars	403	278	2	6	14·95	689·8	4·96	14·89	37·10	13·54	19·63	Ballincollig, 12 months	11

Battery or Battalion.	Corps.	Average Annual Strength.	Admitted into Hospital.	Died.	Invalided.	Average Constantly Sick.	Ratio per 1,000 of Mean Strength.				Sick each	Average Duration of each Case of Sickness.	Stations occupied during the Year, &c.	Years at Home since last return from Foreign Service.
							Admitted.	Died.	Invalided.	Average Constantly Sick.	Average Time to Soldier.			
	CAVALRY—*cont.*										days.	days.		
4th	Hussars	504	589	3	13	41·23	1168·7	5·95	25·79	81·90	29·90	25·58	Dublin, 12 months; Detachment at Navan.	12
6th	Dragoons	65	72	—	5	3·48	1107·7	—	76·92	53·54	19·54	17·64	Brighton, 1½ months. From Natal.	—
8th	Hussars	413	538	6	5	31·53	1302·6	14·53	12·10	76·34	27·86	21·39	Norwich, 3 months; Shorncliffe, 6½ months; Aldershot, 2 months.	1
9th	Lancers	447	418	3	10	19·27	935·1	6·71	22·37	43·11	15·73	16·82	Manchester, 7 months; Detachments at Seaforth and Fleetwood; Dundalk and Belfast, 3 months; Curragh, 1 month.	5
10th	Hussars	432	272	7	10	15·59	629·6	16·20	23·14	36·08	13·17	20·92	York, 12 months	6
11th	Hussars	352	389	3	20	25·45	1105·1	8·52	56·82	72·30	26·39	23·88	Aldershot, 7 months. To India	13
12th	Lancers	382	330	2	6	17·31	863·9	5·23	15·70	45·31	16·54	19·14	Manchester, 3 months; Detachments at Seaforth, Hounslow, 8 months; Detachments at Hampton Court and Kensington.	3
13th	Hussars	400	230	2	5	9·58	575·0	5·00	12·50	23·95	8·74	15·20	Piershill, 12 months. Detachments at Maryhill.	5
14th	Hussars	419	500	2	6	24·06	1193·3	4·77	14·32	57·42	20·96	17·56	Brighton, 8 months; Detachments at Hilsea; Hounslow, 3 months; Aldershot for manœuvres.	4
15th	Hussars	427	243	1	1	9·48	569·1	2·34	2·34	22·20	8·10	14·24	Cahir, 12 months	9
16th	Lancers	401	373	4	14	21·89	930·2	9·97	34·91	54·59	19·92	21·42	Shorncliffe, 2½ months; Aldershot, 6½ months. To India.	14
17th	Lancers	65	50	—	—	2·56	769·2	—	—	39·38	14·38	18·69	Shorncliffe, 2 months. From India.	—
19th	Hussars	662	571	4	12	35·58	862·5	6·04	18·12	53·74	19·62	22·74	Aldershot, 12 months; Detachment at Hilsea.	4

Battery or Battalion.	Corps.	Average Annual Strength.	Admitted into Hospital.	Died.	Invalided.	Constantly Sick.	Ratio per 1,000 of Mean Strength.				Sick Time to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year, &c.	Years at Home since last return from Foreign Service.
							Admitted.	Died.	Invalided.	Average Constantly Sick.				
											days.	days.		
	CAVALRY—*cont.*													
20th	Hussars - - - -	411	496	1	2	23·18	1206·8	2·43	4·86	56·40	20·58	17·06	Norwich, 6 months; Aldershot 6 months.	3
	Cavalry Depôts - - -	1,276	1,408	4	42	64·90	1103·4	3·35	32·92	50·86	18·56	16·82	Canterbury - - - -	Since formation.
	Other Corps - - - -	188	84	1	11	10·73	446·8	5·32	58·51	57·07	20·83	46·62	Various.	—
	Total Cavalry of the Line -	10,044	9,169	60	213	495·52	912·9	5·97	21·06	49·33	18·00	19·72		
	ROYAL ARTILLERY.													
D	Horse Artillery - - -	109	89	—	4	6·22	816·5	—	36·70	57·06	20·83	25·51	Aldershot, 12 months - - -	2
E	Horse Artillery - - -	126	92	1	2	4·38	730·1	7·98	15·87	34·76	12·69	17·37	Dublin, 5 months; Glenbeigh Camp, 1 month; Curragh, 6 months.	1
F	Horse Artillery - - -	181	119	2	1	7·22	657·4	11·05	5·52	39·89	14·56	22·14	Woolwich, 12 months. Detachment Camp, Okehampton, 3½ months.	9
G	Horse Artillery - - -	120	97	1	—	3·14	808·3	8·33	—	26·33	9·55	11·81	Dorchester, 12 months - - -	1
I	Horse Artillery - - -	156	99	—	1	5·91	634·6	—	6·41	37·88	13·83	21·79	Aldershot, 12 months. Detachment Camp, Okehampton, 3½ months.	8
J	Horse Artillery - - -	155	125	—	3	7·11	806·4	—	19·35	45·87	16·74	20·76	St. John's Wood, 12 months - -	4
K	Horse Artillery - - -	143	146	2	2	9·81	1021·0	13·99	13·99	68·60	25·03	24·51	Aldershot, 12 months - - -	12
L	Horse Artillery - - -	154	80	1	2	5·69	519·5	6·49	12·98	36·95	13·48	25·96	Woolwich, 10 months; Aldershot, 2 months.	8
O	Horse Artillery - - -	110	64	—	1	2·93	581·8	—	9·09	26·63	9·72	16·57	Curragh and Glenbeigh Camp, 12 months.	1

Battery or Battalion.	Corps.	Average Annual Strength.	Admitted into Hospital.	Died.	Invalided.	Constantly Sick.	Ratio per 1,000 of Mean Strength.				Sick Time to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year, &c.	Years at Home since last return from Foreign Service.
							Admitted.	Died.	Invalided.	Average Constantly Sick.				
	ROYAL ARTILLERY—*cont.*										days.	days.		
A Depôt	Horse Artillery - - -	231	157	—	3	11·12	710·4	—	13·57	50·31	18·36	25·85	Woolwich - - - -	permanent
B Depôt	Horse Artillery - - -	225	277	1	3	14·33	1231·1	4·44	13·33	63·68	23·24	18·88	Woolwich - - - -	"
—	Riding Estalishment - - -	104	71	—	1	5·59	682·7	—	9·61	53·75	19·61	28·73	Woolwich - - - -	"
—	Remount Depôt - - -	82	40	—	—	2·14	487·8	—	—	26·09	9·52	19·53	Woolwich - - - -	"
1st	Field Artillery - - - -	135	87	—	—	4·14	644·4	—	—	30·66	11·19	17·37	Sheffield, 2½ months; Weedon, 9½ months.	6
3rd	Field Artillery - - - -	136	75	—	1	4·34	551·4	—	7·35	31·91	11·65	21·12	Trowbridge, 3 months; Shorncliffe, 9 months.	5
4th	Field Artillery - - - -	12	28	1	—	1·56	2333·3	83·33	—	130·00	47·45	20·34	Aldershot, 1½ months. From India.	—
6th	Field Artillery - - - -	178	93	1	—	6·44	522·4	5·62	—	36·18	13·20	25·27	Woolwich, 10 months; Aldershot, 2 months.	1
7th	Field Artillery - - - -	106	65	1	2	3·76	613·2	9·43	18·87	35·47	12·94	21·11	Shorncliffe, 12 months. Detachment, Okehampton.	2
11th	Field Artillery - - - -	135	164	—	7	9·02	1187·2	—	51·85	66·81	24·38	20·07	Sheffield, 12 months. Detachment at Fleetwood.	2
12th	Field Artillery - - - -	94	66	1	7	3·33	702·1	10·63	74·47	35·42	12·93	18·42	Maryhill, 12 months - - -	3
13th	Field Artillery - - - -	144	201	—	2	7·03	1395·8	—	13·89	48·82	17·82	12·76	Hilsea, 2½ months; Clonmel, 9½ months.	4
14th	Field Artillery - - - -	97	89	1	—	4·77	917·5	10·31	—	49·17	17·95	19·56	Shorncliffe, 12 months. Detachment, Okehampton.	2
16th	Field Artillery - - - -	148	98	—	4	6·29	662·1	—	27·02	42·50	15·51	23·42	Newcastle, 12 months. Detachment, Okehampton.	6
18th	Field Artillery - - - -	102	89	1	1	5·35	872·5	9·80	9·80	52·45	19·14	21·94	Colchester, 12 months - - -	3
23rd	Field Artillery - - - -	161	169	1	2	7·80	1049·7	6·21	12·42	48·44	17·68	16·84	Hilsea, 12 months. Detachment, Okehampton.	9

Battery or Battalion.	Corps.	Average Annual Strength.	Admitted into Hospital.	Died.	Invalided.	Constantly Sick.	Ratio per 1,000 of Mean Strength.				Sick Time to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year, &c.	Years at Home since last return from Foreign Service.
							Admitted.	Died.	Invalided.	Average Constantly Sick.				
	ROYAL ARTILLERY—*cont.*										days.	days.		
24th	Field Artillery - - - -	113	86	2	2	5·65	761·0	17·70	17·70	50·00	18·25	23·98	Sheffield, 12 months - - -	2
25th	Field Artillery - - - -	147	152	1	1	5·35	1034·0	6·80	6·80	36·39	13·28	12·84	Trowbridge, 8 months; Ipswich, 3 months. Okehampton.	4
29th	Field Artillery - - - -	123	97	2	5	4·28	788·6	16·26	40·65	34·79	12·70	16·10	Curragh, 8 months; Glenbeigh, 1 month; Clonmel, 3 months.	7
30th	Field Artillery - - - -	147	97	—	1	5·08	659·8	—	6·80	34·56	12·61	19·11	Coventry, 8 months; Weedon, 4 months. Detachment at Okehampton.	5
32nd	Field Artillery - - - -	137	99	1	6	6·16	712·2	7·19	43·17	44·32	16·17	22·71	Aldershot, 12 months - - -	9
33rd	Field Artillery - - - -	134	89	—	6	5·58	664·2	—	44·77	41·64	15·20	22·88	Newcastle, 8½ months; Weedon, 3 months.	9
34th	Field Artillery - - - -	115	79	1	3	6·29	686·9	8·69	26·08	54·69	19·96	29·06	Aldershot, 10 months. To India -	13
37th	Field Artillery - - - -	17	28	—	—	1·19	1647·0	—	—	70·00	25·55	15·51	Exeter, 1½ months. From India.	—
40th	Field Artillery - - - -	152	124	—	2	5·81	815·8	—	13·16	38·22	13·95	17·10	Ipswich, 9 months; Woolwich, 3 months.	7
41st	Field Artillery - - - -	133	77	—	—	3·34	578·9	—	—	25·11	9·16	15·83	Coventry, 4 months; Weedon, 8 months.	6
45th	Field Artillery - - - -	144	138	1	5	6·02	958·3	6·94	34·72	41·80	15·26	15·92	Ipswich, 9 months; Woolwich, 3 months.	7
46th	Field Artillery - - - -	105	100	—	1	5·62	952·4	—	9·52	53·52	19·53	20·51	Hilsea, 9 months. To India. - -	11
47th	Field Artillery - - - -	154	149	1	5	7·79	967·5	6·49	32·46	50·58	18·46	19·08	Aldershot, 12 months. Detachment at Okehampton.	11
49th	Field Artillery - - - -	142	82	2	1	4·61	577·5	14·09	7·04	32·46	11·85	20·52	Fermoy, 12 months - - -	11
51st	Field Artillery - - - -	124	86	2	4	5·37	693·5	16·13	32·26	43·30	15·80	22·79	Woolwich, 9 months; Aldershot, 1½ months. To India.	13

Battery or Battalion.	Corps.	Average Annual Strength.	Admitted into Hospital.	Died.	Invalided.	Constantly Sick.	Ratio per 1,000 of Mean Strength.				Sick Time to each		Stations occupied during the Year, &c.	Years at Home since last return from Foreign Service.
						Average	Admitted.	Died.	Invalided.	Average Constantly Sick.	Average Time to each Soldier.	Average Duration of each Case of Sickness.		
	ROYAL ARTILLERY—*cont.*										days.	days.		
52nd	Field Artillery - - - -	116	130	—	1	7·19	1120·7	—	8·63	61·98	22·62	20·18	Exeter, 8½ months; Shorncliffe, 3½ months.	12
54th	Field Artillery - - - -	119	71	—	1	6·10	596·6	—	8·40	51·26	18·71	31·35	Woolwich, 9 months. To India -	6
56th	Field Artillery - - - -	104	91	—	4	5·86	875·0	—	38·46	56·34	20·56	23·50	Newcastle, 3 months; Colchester, 9 months.	8
57th	Field Artillery - - - -	116	81	1	—	3·52	698·3	8·62	—	30·34	11·07	15·86	Aldershot, 12 months. Detachment at Okehampton.	4
58th	Field Artillery - - - -	114	98	—	1	5·05	859·6	—	8·77	44·29	16·17	18·81	Exeter, 12 months - - -	5
62nd	Field Artillery - - - -	103	79	—	3	5·11	766·9	—	29·12	49·61	18·10	23·60	Newcastle, 12 months - - -	3
63rd	Field Artillery - - - -	108	67	1	6	4·47	620·3	9·26	55·55	41·39	15·10	24·35	Colchester, 12 months. Detachment at Okehampton.	2
64th	Field Artillery - - - -	91	24	—	1	1·34	263·7	—	10·99	14·73	5·37	20·38	Athlone, 12 months - - -	2
66th	Field Artillery - - - -	108	129	1	1	4·36	1194·4	9·26	9·26	40·37	14·74	12·34	Christchurch, 12 months - -	2
67th	Field Artillery - - - -	153	113	1	3	6·92	738·5	6·53	19·61	45·23	16·51	22·35	Aldershot, 12 months. Detachment at Okehampton.	4
69th	Field Artillery - - - -	135	89	—	1	3·94	659·3	—	7·41	29·19	10·65	16·16	Limerick, 12 months - - -	4
73rd	Field Artillery - - - -	17	30	1	—	1·19	1764·7	58·82	—	70·00	25·55	14·48	Ipswich, 1½ months. From India.	—
74th	Field Artillery - - - -	9	23	—	—	·84	2555·6	—	—	93·33	34·06	13·33	Longford, 1 month. From India.	—
75th	Field Artillery - - - -	190	106	2	5	7·36	557·9	10·52	26·31	38·73	14·13	25·34	Aldershot, 12 months - - -	14
77th	Field Artillery - - - -	13	42	—	—	1·96	3230·7	—	—	150·77	55·03	17·03	Colchester 1½ months. From India.	—
80th	Field Artillery - - - -	98	37	—	2	2·41	377·5	—	20·40	24·59	8·97	23·77	Athlone, 9 months; Curragh, 3 months	4

Battery or Battalion.	Corps.	Average Annual Strength.	Admitted into Hospital.	Died.	Invalided.	Average Constantly Sick.	Ratio per 1,000 of Mean Strength.				Sick Time to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year, &c.	at Home since last return from Foreign Service.
							Admitted.	Died.	Invalided.	Average Constantly Sick.				
	ROYAL ARTILLERY—*cont.*										days.	days.		
1/1 Depôt	Field Artillery - - - -	582	495	1	4	23·31	850·5	1·71	6·87	48·64	17·75	20·37	Woolwich - - - -	permanent.
2/1 Depôt	Field Artillery - - - -	559	567	4	5	30·82	1041·3	7·15	8·94	55·13	20·12	19·84	Woolwich - - - -	"
1/3 Depôt	Field Artillery - - - -	378	378	—	4	25·51	1000·0	—	10·58	67·48	24·63	24·63	Woolwich - - - -	"
2/3 Depôt	Field Artillery - - - -	363	433	5	3	24·47	1192·8	13·77	8·26	67·41	24·61	20·63	Woolwich - - - -	"
10th	Mountain Artillery - - -	216	197	—	4	7·49	912·0	—	18·52	34·67	12·65	13·87	Newport and Brecon - - -	3
	Garrison Artillery, Eastern Division	2,265	1,753	15	25	84·65	773·9	6·62	11·03	37·37	13·64	17·62	No. 2 Battery, Landguard Fort; No. 5, Sheerness; No. 7, Sheerness; No. 11, Shoeburyness; No. 16, Golden Hill Fort and Sheerness; No. 17, Landguard Fort; No. 18, Shoeburyness; No. 19, Golden Hill Fort and Sheerness; No. 20, Shoeburyness; No. 25, Shoeburyness; No. 28, Woolwich; Head Quarter Depôt, Dover; Auxiliary Depôts, Woolwich and Great Yarmouth.	

Battery or Battalion.	Corps.	Average Annual Strength.	Admitted into Hospital.	Died.	Invalided.	Constantly Sick.	Ratio per 1,000 of Mean Strength.				Sick each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year, &c.	Years at Home since last return from Foreign Service.
						Average	Admitted.	Died.	Invalided.	Average Constantly Sick.	Average Time to			
	ROYAL ARTILLERY—*cont.*										days.	days.		
	Garrison Artillery, Southern Division.	2,471	2,063	22	40	127·77	843·0	8·90	16·1	51·71	18·83	22·39	No. 1 Battery, Portsmouth; No. 2, Weymouth; No. 15, Portsmouth; No. 16, Portsmouth; No. 17, Queenstown; No. 19, Portsmouth; No. 22, Golden Hill Fort and Queenstown; No. 23, Golden Hill Fort and Queenstown; No. 27, Golden Hill Fort; No. 31, Portsmouth; No. 34, Gosport; No. 38, Queenstown; No. 39, Weymouth; No. 40, Sandown and Queenstown; No. 41, Gosport; No. 42, Portsmouth; Head Quarter Depôt, Gosport; Auxiliary Depôts, Liverpool, Fort Westmoreland and Leith Fort.	
	Garrison Artillery, Western Division	1,469	1,122	11	27	68·82	763·8	7·49	18·38	46·85	17·10	22·39	No. 4 Battery, Devonport; No. 5, Devonport, Golden Hill Fort, Alderney and Guernsey; No. 7, Devonport; No. 8, Devonport and Golden Hill Fort; No. 9, Pembroke Dock; No. 14, Devonport, Alderney, and Guernsey; No. 18, Devonport; No. 19, Pembroke Dock and Golden Hill Fort; No. 21, Jersey; No. 25, Devonport and Golden Hill Fort; Head Quarter Depôt, Devonport; **Auxiliary Depot, Sunderland.**	

Battery or Battalion.	Corps.	Average Annual Strength.	Admitted into Hospital.	Died.	Invalided.	Constantly Sick.	Ratio per 1,000 of Mean Strength.				Sick Time to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year, &c.	Years at Home since last return from Foreign Service.
						Average	Admitted.	Died.	Invalided.	Average Constantly Sick.	Average			
	ROYAL ARTILLERY—*cont.*										days.	days.		
	Garrison Artillery, Coast Brigade -	572	131	7	7	8·77	229·0	12·24	12·24	15·33	5·96	24·43	No. 1 Division, Tynemouth Castle; No. 3, Southsea; No. 4, Plymouth; No. 5, Edinburgh; No. 6, Tower of London; No. 7, Guernsey; No. 8, Londonderry and Dublin; No. 9, Cork; No. 10, Gravesend.	
	Royal Artillery: District Staff -	666	254	9	4	17·17	381·4	13·51	6·00	25·78	9·41	24·67	Woolwich.	
	Royal Artillery, School of Gunnery -	381	80	1	1	4·08	210·0	2·62	2·62	10·71	3·91	18·61	Shoeburyness.	
	Royal Artillery, Various - -	325	142	—	11	17·30	466·9	—	33·84	53·23	19·43	44·47		
	Total Royal Artillery -	17,062	13,008	110	255	740·34	762·4	6·45	14·95	43·39	15·84	20·77		
	ROYAL ENGINEERS.													
	Royal Engineers - - -	4,512	2,823	27	51	145·35	625·7	5·98	11·30	32·21	11·76	18·79		
	FOOT GUARDS.													
1st	Grenadier Guards - - -	755	642	4	26	56·44	850·3	5·30	34·43	74·75	27·28	32·09	London, 7 months; Dublin, 4 months	26
2nd	Grenadier Guards - - -	488	480	7	13	30·73	983·6	14·34	24·59	69·97	22·98	23·36	London, 7 months. To Bermuda -	8
3rd	Grenadier Guards - - -	726	801	6	13	48·04	1103·3	8·26	17·90	66·17	24·15	21·89	London, 3 months; Dublin, 8 months	5

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							Admitted.	Died.	Invalided.	Average Constantly Sick.				
											days.	days.		
	FOOT GUARDS—*cont.*													
1st	Coldstream Guards	606	813	1	16	49·37	1341·6	1·65	26·40	81·47	29·73	22·16	London, 9½ months; Pirbright, 2½ months.	5
2nd	Coldstream Guards	665	510	—	10	36·86	766·9	—	15·03	55·43	20·23	26·38	London, 4 months; Windsor, 8 months	8
1st	Scots Guards	653	592	6	21	44·09	906·6	9·19	32·16	67·52	24·64	27·18	London, 10½ months; Pirbright, 1½ months.	8
2nd	Scots Guards	654	588	8	11	48·90	899·1	12·23	16·82	74·77	27·32	30·35	London, 2 months; Windsor, 3 months	5
	Detachments Foot Guards	463	112	—	1	8·43	241·9	—	2·16	18·20	6·64	27·47	Various.	—
	Total Foot Guards	5,010	4,538	32	110	332·86	905·8	6·39	21·96	64·44	23·52	25·97		
	INFANTRY.													
2nd	Royal Scots	920	1,054	3	11	57·76	1145·6	3·26	11·95	62·78	22·91	20·00	Aldershot, 11½ months. To Malta	10
1st	Royal West Surrey Regiment	800	588	3	7	36·31	735·0	3·75	8·75	45·38	16·56	22·54	Aldershot, 12 months	11
2nd	East Kent Regiment	544	517	—	23	28·97	950·3	—	40·44	52·92	19·44	20·45	Aldershot, 12 months	4
1st	Royal Lancaster Regiment	699	640	4	13	40·83	915·6	5·72	18·60	58·41	21·32	23·28	Dublin, 2 months; Curragh, 10 months. Detachment at Dublin.	9
1st	Northumberland Fusiliers	738	596	2	4	33·98	807·6	2·71	5·42	46·04	16·80	20·80	Woolwich, 12 months	10
1st	Royal Warwickshire Regiment	627	596	1	11	32·77	950·5	1·59	17·54	52·26	19·07	20·07	London, 4 months; Fermoy, 8 months. Detachment at Queenstown.	10
2nd	Royal Fusiliers	661	652	—	14	29·92	986·4	—	21·16	45·26	16·52	16·75	Dover, 10½ months; Lydd, 1½ months.	1

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							Admitted.	Died.	Invalided.	Average Constantly Sick.				
	INFANTRY—*cont.*										days.	days.		
1st	Liverpool Regiment - - -	903	953	3	27	54·09	1055·4	3·32	29·90	59·90	21·86	20·71	Aldershot, 12 months - - -	12
2nd	Norfolk Regiment - - -	543	635	10	21	35·23	1169·4	18·41	38·67	64·88	23·68	20·25	Colchester, 9 months. From Burma.	—
1st	Lincolnshire Regiment - -	607	339	1	5	20·58	558·5	1·65	8·24	33·90	13·38	23·16	Shorncliffe, 12 months - - -	13
1st	Devonshire Regiment - -	764	1047	3	20	51·93	1370·4	3·93	26·17	67·97	24·81	18·10	Aldershot, 12 months - - -	13
1st	Somersetshire Light Infantry -	704	696	2	21	39·53	988·6	2·84	29·83	56·15	20·49	20·73	Aldershot, 12 months - - -	11
1st	West Yorkshire Regiment - -	610	405	1	4	22·31	663·9	1·64	6·56	36·57	13·35	20·11	Fermoy, 12 months - - -	11
2nd	East Yorkshire Regiment - -	477	402	5	5	19·95	842·7	10·48	10·48	41·89	15·26	18·11	Sheffield, 12 months - - -	2
1st	Bedfordshire Regiment - -	87	127	—	4	6·70	1459·7	—	45·98	77·01	28·11	19·26	Aldershot, 1½ months. To Malta -	20
2nd	Leicestershire Regiment - -	35	118	2	—	4·05	3371·4	57·14	—	115·71	42·24	12·53	Warley, 1 month. From Aden.	—
1st	Royal Irish Regiment - -	673	781	5	29	40·66	1162·2	7·44	43·15	60·51	22·08	19·00	Colchester, 12 months - - -	5
1st	Yorkshire Regiment - - -	586	756	5	14	46·11	1290·1	8·53	23·89	78·68	28·72	22·26	Portsmouth, 12 months. Detachments at Hilsea and Gosport.	1
1st	Lancashire Fusiliers - - -	659	529	1	33	23·32	802·7	1·51	50·07	35·38	12·91	16·09	Maryhill 12 months. Detachments at Stirling and Fort George.	10
1st	Royal Scots Fusiliers - - -	511	863	2	8	51·64	1688·8	3·91	15·66	101·06	36·89	21·84	Dublin, 12 months - - -	9
2nd	Cheshire Regiment - - -	510	471	6	13	25·48	923·5	11·76	25·49	49·96	18·24	19·75	Manchester, 12 months. Detachments at Fleetwood and Altcar.	1
2nd	Royal Welsh Fusiliers - -	592	475	6	13	20·09	802·3	10·13	21·96	33·93	12·38	15·43	Galway, 6 months. Detachments at Ballinrobe and Castlebar; Curragh, 6 months.	10

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							Admitted.	Died.	Invalided.	Average Constantly Sick.				
	INFANTRY—*cont.*										days.	days.		
1st	South Wales Borderers - -	786	773	3	20	43·23	983·2	3·81	25·42	55·00	20·07	20·41	Aldershot, 12 months - - -	11
1st	Scottish Rifles - - - -	601	594	3	11	30·64	988·3	4·99	18·30	50·98	18·61	18·83	Cork, 12 months. Detachment at Kinsale.	9
1st	Royal Inniskilling Fusiliers - -	800	771	8	21	43·49	963·7	10·00	26·25	54·36	19·84	20·59	Portsmouth, 12 months. Detachments at Hilsea and Gosport.	1
1st	Gloucestershire Regiment - -	757	1031	9	20	64·30	1362·0	11·89	26·42	84·94	31·09	22·76	Dublin, 12 months - - -	11
2nd	Worcestershire Regiment - -	728	620	1	11	29·22	851·6	1·37	15·11	40·14	14·65	17·20	Limerick, 12 months. Detachment at Tralee.	15
2nd	East Lancashire Regiment - -	624	492	—	5	20·25	788·4	—	8·01	32·45	11·84	15·02	Newry, 9 months. Detachments at Armagh, Dundalk, and Newtownards. Mullingar, 3 months.	10
2nd	East Surrey Regiment - -	600	464	1	9	21·32	773·3	1·66	15·00	35·53	12·96	18·92	Alderney and Guernsey, 12 months -	5
2nd	Duke of Cornwall's Light Infantry	617	424	—	2	18·75	687·2	—	3·24	30·39	11·09	16·14	Pembroke Dock, 12 months. Detachment at Newport (Mon.).	4
1st	West Riding Regiment - -	435	459	11	13	24·13	1055·1	25·28	29·88	55·47	20·24	19·18	York, 12 months - - - -	1
1st	Border Regiment - - -	5	88	2	—	2·19	—	—	—	—	—	—	Dover ½ month. From Burma.	—
1st	Royal Sussex Regiment - -	639	416	4	11	21·80	651·0	6·26	17·21	32·55	12·45	19·13	Preston, 12 months. Detachments at Chester and Fleetwood.	5
2nd	Hampshire Regiment - - -	702	635	—	13	38·60	904·5	—	18·51	54·98	20·06	22·18	Chatham and Gravesend, 12 months -	2
2nd	South Staffordshire Regiment -	681	380	1	16	25·19	558·0	1·47	23·49	36·99	13·50	24·19	Curragh, 12 months - - -	10
2nd	Dorsetshire Regiment - -	611	636	3	6	41·89	1040·9	4·90	9·81	68·56	25·02	24·04	Devonport, 12 months - - -	4
1st	South Lancashire Regiment -	597	526	4	10	27·02	881·0	6·70	16·75	45·26	16·52	18·75	Jersey, 12 months - - -	4
2nd	Welsh Regiment - -	606	694	2	14	37·68	1145·2	3·30	23·10	62·18	22·70	19·82	Cork, 12 months - - - -	12

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							Admitted.	Died.	Invalided.	Average Constantly Sick.				
	INFANTRY—*cont.*										days.	days.		
2nd	Royal Highlanders	556	404	3	4	24·46	726·6	5·40	7·19	43·99	16·06	22·10	Belfast, 12 months. Detachments at Devonport and Newtownards.	9
1st	Oxfordshire Light Infantry	533	544	—	9	37·90	1020·6	—	16·88	71·12	25·95	25·43	Portsmouth, 12 months. Detachments, Parkhurst, Hilsea, and Marchwood.	3
1st	Essex Regiment	714	942	5	3	52·95	1319·3	7·00	4·20	74·16	27·07	20·52	Devonport, 12 months	6
1st	Derbyshire Regiment	701	513	1	3	33·90	731·8	1·42	4·27	48·36	17·65	24·12	Devonport, 12 months	12
2nd	Loyal North Lancashire Regiment	734	499	1	8	21·55	679·8	13·62	10·90	29·36	10·71	15·76	Enniskillen, 11½ months. Detachments at Londonderry and Dunfanaghy. Jersey, ½ month.	7
1st	Northamptonshire Regiment	537	558	2	9	31·07	1039·1	3·72	16·76	57·86	21·12	20·32	Warley, 11 months; Aldershot, 1 month. Detachment, London.	10
2nd	Royal Berkshire Regiment	733	333	2	11	16·08	454·5	2·72	15·01	21·94	8·01	17·63	Templemore, 12 months. Detachment at Rosores.	9
2nd	Royal West Kent Regiment	659	397	2	5	20·09	602·4	3·03	7·58	30·48	11·13	18·47	Portland, 12 months	8
1st	Yorkshire Light Infantry	621	674	4	17	44·16	1085·3	6·44	27·37	71·11	25·94	23·91	Gosport, 12 months	3
2nd	Shropshire Light Infantry	668	409	2	8	21·00	612·3	2·99	11·97	31·44	11·47	18·74	Kilkenny, 12 months. Detachments at Waterford and Duncannon Fort.	9
1st	Middlesex Regiment	744	347	1	3	12·59	466·4	1·34	4·03	16·92	6·18	13·24	Buttevant, 12 months. Detachment at Tralee.	11
1st	King's Royal Rifle Corps	820	696	3	10	39·48	848·8	3·66	12·10	48·15	16·35	19·27	Aldershot, 11 months. To India	14
2nd	King's Royal Rifle Corps	556	581	6	6	37·93	1044·9	10·79	10·79	68·21	24·90	23·83	Dublin, 12 months. Detachments at Enniskillen and Londonderry.	9
1st	Wiltshire Regiment	755	314	1	5	17·51	415·9	1·32	6·62	23·19	8·46	20·35	Athlone, 5 months. Detachments at Boyle. Curragh, 7 months.	8
1st	Manchester Regiment	597	682	5	16	27·46	1143·4	8·38	26·80	46·00	16·79	14·70	Tipperary, 12 months. Detachment at Queenstown.	8

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							Admitted.	Died.	Invalided.	Average Constantly Sick.	Average Time to Soldier.	Average Duration of each Case of Sickness.		
	INFANTRY—*cont.*										days.	days.		
2nd	North Staffordshire Regiment	602	574	4	8	34·80	953·5	6·64	13·29	57·81	21·10	22·23	Devonport, 12 months	2
1st	York and Lancaster Regiment	652	364	3	7	18·59	558·3	4·60	10·73	28·51	10·40	18·64	Birr, 12 months. Detachments at Curragh, Portumna, and Tullamore.	6
1st	Durham Light Infantry	591	466	3	14	28·17	788·5	5·07	23·69	47·66	17·40	22·06	Bradford, 12 months. Detachments at Chester, Lichfield, and Weedon.	3
1st	Highland Light Infantry	617	578	3	16	34·80	936·8	4·86	25·93	56·40	20·58	21·97	Dover, 7 months; Curragh, 5 months	10
1st	Seaforth Highlanders	578	471	5	11	32·81	814·9	8·65	19·03	56·76	20·72	25·43	Dublin, 12 months	8
2nd	Gordon Highlanders	629	458	2	8	27·60	728·1	3·18	12·72	43·88	16·01	21·99	Belfast, 8 months. Detachment, Newtownards. Curragh, 4 months.	9
1st	Cameron Highlanders	609	495	4	20	25·67	708·2	5·72	28·61	36·72	13·40	18·93	Edinburgh Castle, 12 months. Detachments at Blackness and Ballater.	3
1st	Royal Irish Rifles	575	378	4	9	18·15	657·4	6·95	15·65	31·56	11·52	17·52	Mullingar, 6 months; Fermoy, 4 months; Curragh, 2 months.	9
2nd	Royal Irish Fusiliers	706	397	7	11	20·15	560·7	9·89	15·54	28·46	10·39	18·52	Dover, 4 months; Athlone, 8 months. Detachment at Castlebar.	6
2nd	Argyll and Sutherland Highlanders	723	635	3	18	39·76	878·3	4·15	24·89	54·99	20·07	22·85	Aldershot, 9½ months; Curragh, 2 months.	9
2nd	Leinster Regiment	664	706	5	12	41·39	1063·3	7·53	18·07	62·33	22·75	21·40	Shorncliffe, 11 months; Dover, 1 month.	13
1st	Royal Munster Fusiliers	716	952	—	18	44·99	1329·6	—	25·14	62·84	22·93	17·25	Colchester, 12 months	7
1st	Royal Dublin Fusiliers	597	449	3	12	26·41	752·1	5·02	20·10	44·24	16·15	21·47	Newry, 3 months. Detachment at Dundalk. Curragh, 9 months.	4
2nd	Rifle Brigade	643	558	4	16	26·70	867·8	6·22	24·88	41·52	15·15	17·46	Dover, 7 months; Lydd, 1 month; Aldershot, 1 month; Belfast, 3 months.	10
4th	Rifle Brigade	698	437	7	6	21·49	626·1	10·03	8·59	30·79	11·23	17·95	Parkhurst, 11 months; Detachment at Marchwood. From India.	—

Battery or Battalion.	Corps.	Average Annual Strength.	Admitted into Hospital.	Died.	Invalided.	Constantly Sick.	Ratio per 1,000 of Mean Strength.				Sick to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year, &c.	Years at Home since last return from Foreign Service.
						Average	Admitted.	Died.	Invalided.	Average Constantly Sick.	Average Time			
	INFANTRY—*cont.*										days.	days.		
	Mounted Infantry	208	147	—	1	6·26	706·7	—	4·80	30·09	10·98	15·54	Aldershot and Curragh.	—
	Other Infantry	1,167	841	—	51	79·35	720·6	—	43·70	68·00	24·81	34·43		
	Total Infantry Regiments	44,063	30,042	212	836	2177·13	886·6	4·81	18·98	49·44	18·04	20·35		
	REGIMENTAL DEPÔTS.													
Depôt	Royal Scots	168	117	—	6	4·96	696·4	—	35·71	29·53	10·78	15·47	Glencorse	Since formation.
"	Royal West Surrey Regiment	179	212	2	—	4·97	1184·3	11·17	—	27·76	10·13	8·56	Guildford	"
"	East Kent Regiment	137	257	1	4	7·85	1875·9	7·30	29·20	57·30	20·91	11·15	Canterbury	"
"	Royal Lancaster Regiment	175	75	—	1	2·80	428·6	—	5·71	16·00	5·84	13·63	Lancaster	"
"	Northumberland Fusiliers	128	85	—	2	3·90	664·0	—	15·62	30·46	11·12	16·74	Newcastle-on-Tyne	"
"	Royal Warwickshire Regiment	227	106	1	2	3·51	466·9	4·40	8·81	15·46	5·64	12·09	Warwick. Det. at Lichfield 3 months	"
"	Royal Fusiliers	178	120	4	2	5·22	674·1	22·47	11·23	29·32	10·70	15·88	Hounslow	"
"	Liverpool Regiment	130	57	2	—	1·87	438·4	15·38	—	14·38	5·25	11·97	Warrington	"
"	Norfolk Regiment	192	139	1	1	4·95	723·9	5·21	5·21	25·78	9·41	13·00	Norwich	"
"	Lincolnshire Regiment	115	40	1	5	1·96	347·8	8·69	43·47	17·04	6·22	17·88	Lincoln	"

Battery or Battalion.	Corps.	Average Annual Strength.	Admitted into Hospital.	Died.	Invalided.	Average Constantly Sick.	Ratio per 1,000 of Mean Strength.				Sick Time to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year, &c.	Years at Home since last return from Foreign Service.
							Admitted.	Died.	Invalided.	Average Constantly Sick.				
	REGIMENTAL DEPÔTS—*cont.*										days.	days.		
Depôt	Devonshire Regiment	112	66	2	—	3·08	589·3	17·85	—	27·50	10·04	17·08	Exeter	Since formation.
„	Suffolk Regiment	255	127	—	1	4·05	498·0	—	3·92	15·88	5·80	11·64	Bury St. Edmund's	„
„	Somersetshire Light Infantry	127	77	2	—	2·11	606·3	15·74	—	16·61	6·06	10·00	Taunton	„
„	West Yorkshire Regiment	160	94	—	—	4·17	587·5	—	—	26·06	9·51	16·19	York	„
„	East Yorkshire Regiment	135	59	1	—	2·39	437·0	7·40	—	17·70	6·46	14·78	Beverley	„
„	Bedfordshire Regiment	338	323	—	8	10·23	955·6	—	23·67	30·27	11·05	11·55	Bedford	„
„	Leicestershire Regiment	273	214	—	1	7·15	783·8	—	3·66	26·19	9·55	12·19	Leicester	„
„	Royal Irish Regiment	141	103	—	—	5·02	730·5	—	—	35·60	13·00	17·79	Clonmel	„
„	Yorkshire Regiment	150	30	3	—	2·06	200·0	20·00	—	13·73	5·01	25·06	Richmond	„
„	Lancashire Fusiliers	148	67	—	—	2·72	452·7	—	—	18·38	6·71	14·82	Bury	„
„	Royal Scots Fusiliers	152	97	—	3	3·08	638·2	—	19·74	20·26	7·40	11·59	Ayr	„
„	Cheshire Regiment	156	99	—	4	2·56	634·6	—	25·64	16·41	5·99	9·44	Chester	„
„	Royal Welsh Fusiliers	177	134	1	4	5·62	757·1	5·65	22·60	31·75	11·59	15·31	Wrexham	„
„	South Wales Borderers	138	190	1	1	6·22	1376·8	7·24	7·24	45·07	16·45	11·95	Brecon	„
„	King's Own Scottish Borderers	248	258	5	10	9·63	1040·3	20·16	40·32	38·43	14·17	13·62	Berwick-on-Tweed	„
„	Scottish Rifles	185	132	2	1	3·53	713·5	10·81	5·41	19·09	6·96	10·48	Hamilton	„

Battery or Battalion.	Corps.	Average Annual Strength.	Admitted into Hospital.	Died.	Invalided.	Average constantly Sick.	Ratio per 1,000 of Mean Strength. Admitted.	Died.	Invalided.	Average constantly Sick.	Average Time lost by each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year, &c.	Years at Home since last return from Foreign Service.
	REGIMENTAL DEPÔTS—*cont.*										days.	days.		
Depôt	Royal Inniskilling Fusiliers -	189	97	2	3	3·29	513·2	10·58	15·87	17·41	6·35	12·38	Omagh - - -	Since formation.
"	Gloucestershire Regiment -	183	146	2	—	6·87	1097·7	15·03	—	51·66	18·85	17·17	Horfield - - -	"
"	Worcestershire Regiment -	145	113	1	2	4·13	772·4	6·89	13·79	28·83	10·53	13·62	Worcester - - -	"
"	East Lancashire Regiment -	134	153	3	2	7·83	1141·8	22·39	14·93	58·19	20·51	17·96	Burnley - - -	"
"	East Surrey Regiment -	219	95	—	4	5·93	433·8	—	18·26	24·11	8·80	20·23	Kingston-on-Thames - - -	"
"	Duke of Cornwall's Light Infantry	110	89	—	—	1·76	810·0	—	—	16·00	5·84	7·23	Bodmin - - -	"
"	West Riding Regiment -	159	104	1	2	5·26	654·0	6·28	12·57	33·08	12·07	18·46	Halifax - - -	"
"	Border Regiment - -	235	232	—	1	10·21	987·7	—	3·77	38·53	14·06	16·79	Carlisle - - -	"
"	Royal Sussex Regiment -	158	107	—	—	2·13	677·2	—	—	13·43	4·90	7·23	Chichester - - -	"
"	Hampshire Regiment -	173	98	—	3	4·63	566·5	—	17·31	27·26	10·17	17·95	Winchester - - -	"
"	South Staffordshire Regiment	144	79	1	1	3·79	548·6	6·94	6·94	26·32	9·61	17·51	Lichfield - - -	"
"	Dorsetshire Regiment -	131	79	—	1	2·37	602·9	—	8·26	19·58	7·15	10·96	Dorchester - - -	"
"	South Lancashire Regiment -	126	94	2	2	3·19	691·2	14·70	14·70	23·45	8·56	13·39	Warrington - - -	"
"	Welsh Regiment - -	125	61	1	1	1·71	488·0	8·00	8·00	13·68	4·99	10·23	Cardiff - - -	"
"	Royal Highlanders - -	165	128	—	2	3·41	745·5	—	12·12	20·67	7·54	10·13	Perth - - -	"
"	Oxfordshire Light Infantry -	104	97	—	3	5·53	922·7	—	28·84	53·17	19·41	20·81	Oxford - - -	"

Battery or Battalion.	Corps.	Average Annual Strength.	Admitted into Hospital.	Died.	Invalided.	Constantly Sick.	Ratio per 1,000 of Mean Strength.				Sick to each Time Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year, &c.	Years at Home since last return from Foreign Service.
							Admitted.	Died.	Invalided.	Average Constantly Sick.				
	REGIMENTAL DEPÔTS—*cont.*										days.	days.		
Depôt	Essex Regiment	191	146	1	2	5·96	764·4	5·24	10·47	31·20	11·39	14·90	Warley	Since formation.
„	Derbyshire Regiment	164	52	—	—	2·89	317·0	—	—	17·62	6·43	20·28	Derby	„
„	North Lancashire Regiment	127	56	—	2	3·39	440·9	—	15·75	26·69	9·74	22·10	Preston	„
„	Northamptonshire Regiment	166	129	2	—	3·63	777·1	12·05	—	21·87	7·98	10·27	Northampton	„
„	Royal Berkshire Regiment	118	59	—	—	1·46	500·0	—	—	12·37	4·51	9·06	Reading	„
„	Royal West Kent Regiment	142	138	—	1	4·05	971·8	—	7·04	27·81	10·41	10·71	Maidstone	„
„	Yorkshire Light Infantry	132	88	—	—	3·56	666·6	—	—	26·96	9·84	14·66	Pontefract	„
„	Shropshire Light Infantry	138	76	—	—	1·77	550·7	—	—	12·82	4·68	8·50	Shrewsbury	„
„	Middlesex Regiment	201	136	3	—	4·53	676·6	14·92	—	22·54	8·22	12·16	Hounslow	„
„	Wiltshire Regiment	101	70	—	—	1·99	693·1	—	—	19·70	7·18	10·37	Devizes	„
„	Manchester Regiment	174	159	4	1	5·19	913·8	23·00	5·75	29·85	10·89	11·91	Ashton-under-Lyne	„
„	North Staffordshire Regiment	190	100	1	1	5·31	526·3	5·26	5·26	27·95	10·20	19·38	Lichfield	„
„	York and Lancaster Regiment	114	64	1	3	2·36	561·4	8·77	26·31	20·70	7·55	13·45	Pontefract	„
„	Durham Light Infantry	145	93	—	5	5·32	641·3	—	34·48	36·68	13·39	20·87	Newcastle-on-Tyne	„
„	Highland Light Infantry	159	135	—	3	3·46	849·0	—	18·87	21·76	7·94	9·35	Hamilton	„
„	Seaforth Highlanders	110	112	—	6	3·75	1018·2	—	54·55	34·09	12·44	12·22	Fort George	„

Battery or Battalion.	Corps.	Average Annual Strength.	Admitted into Hospital.	Died.	Invalided.	Constantly Sick.	Ratio per 1,000 of Mean Strength.				Sick to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year, &c.	Years at Home since last return from Foreign Service.
							Admitted.	Died.	Invalided.	Average Constantly Sick.	Average Time			
	REGIMENTAL DEPÔTS—*cont.*										days.	days.		
Depôt	Gordon Highlanders - - -	139	96	2	3	3·00	690·6	14·38	14·38	21·58	7·87	11·40	Aberdeen - - - - -	Since formation.
„	Cameron Highlanders - -	76	22	—	—	1·09	289·5	—	—	14·34	5·23	18·09	Inverness - - - - -	„
„	Royal Irish Rifles - - -	184	86	2	2	3·95	467·7	10·87	10·87	21·47	7·84	16·76	Belfast - - - - -	„
„	Royal Irish Fusiliers - - -	168	59	3	3	2·06	351·2	17·86	17·86	12·06	4·41	14·25	Armagh - - - - -	„
„	Connaught Rangers - - -	319	233	5	6	10·01	723·3	15·67	18·81	31·38	11·46	15·75	Galway - - - - -	„
„	Argyll and Sutherland Highlanders	181	155	—	2	4·68	856·4	—	11·05	25·86	9·44	11·02	Stirling - - - - -	„
„	King's Royal Rifle Corps and Rifle Brigade.	490	531	1	10	25·78	1083·7	2·04	20·41	52·61	19·20	17·72	Winchester - - - - -	„
„	Leinster Regiment - - -	182	195	4	1	6·74	1071·4	21·98	5·49	37·08	13·53	12·62	Birr - - - - -	„
„	Royal Munster Fusiliers - -	153	138	3	5	6·41	902·0	19·61	32·68	41·90	15·29	16·95	Tralee - - - - -	
„	Royal Dublin Fusiliers - -	162	64	4	3	3·33	395·1	24·69	18·52	20·56	7·50	18·99	Naas - - - - -	„
„	Detached - - - -	164	23	—	2	2·72	140·2	—	12·19	16·58	6·05	4·31		
	Total Regimental Depôts -	11,594	8,248	78	143	315·29	711·4	6·73	12·33	27·19	9·92	13·95		
	Garrison Staff and Departments -	6,647	3,432	39	65	199·37	516·3	5·87	9·78	29·99	10·95	21·20		

ABSTRACT No. XL.—Table, taken from the Reports of the Principal Medical Officers, showing the various Corps which served in the different Foreign Commands during the Year 1890, and some of the most important of their Health Statistics.

Battery or Battalion.	Corps and Commands.	Average Annual Strength.	Admitted into Hospital.	Deaths. In the Command.	Deaths. Of Invalids.	Deaths. Total.	Invalids sent Home.	Average Number Constantly Sick.	Ratio per 1,000 of Strength. Admitted.	Died.	Invalided.	Constantly Sick.	Average Sick Time to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year.	Completed Years of Service in Command.
	GIBRALTAR.												days.	days.		
3rd	Royal Artillery, Eastern Division.	137	107	—	—	—	1	6·40	781·0	—	7·30	46·72	17·05	21·83	Gibraltar, 12 months - - -	4
6th	Royal Artillery, Eastern Division.	131	71	—	—	—	6	5·01	542·0	—	45·80	38·24	13·96	25·75	Gibraltar, 12 months - - -	5
9th	Royal Artillery, Eastern Division.	124	61	—	—	—	—	3·51	491·9	—	—	28·31	10·33	21·00	Gibraltar, 12 months - - -	4
12th	Royal Artillery, Eastern Division.	139	132	—	—	—	1	6·62	949·6	—	7·19	47·63	17·38	18·31	Gibraltar, 12 months - - -	4
24th	Royal Artillery, Eastern Division.	131	45	—	—	—	—	2·39	343·5	—	—	18·24	6·66	19·39	Gibraltar, 12 months - - -	5
26th	Royal Artillery, Eastern Division.	136	53	—	—	—	1	4·25	389·7	—	7·35	31·25	11·40	29·27	Gibraltar, 12 months - - -	4
27th	Royal Artillery, Eastern Division.	132	108	—	—	—	4	7·83	818·2	—	30·30	59·32	21·65	26·46	Gibraltar, 12 months - - -	3
	Royal Artillery, Coast Brigade	13	1	—	—	—	—	·03	76·9	—	—	2·31	0·84	10·95	Gibraltar, 12 months - - -	Various
	Royal Engineers - -	282	229	1	—	1	5	11·08	812·1	3·55	17·73	39·29	14·34	17·66	Gibraltar - - - -	"
1st	South Staffordshire Regiment	831	579	2	—	2	8	32·65	696·8	2·41	9·63	39·29	14·34	18·85	Gibraltar, 12 months - - -	4
2nd	South Lancashire Regiment -	820	705	3	—	3	12	37·50	859·8	3·66	14·63	45·73	16·69	19·41	Gibraltar, 12 months - - -	1
1st	Royal Highlanders - -	793	615	4	—	4	12	36·36	775·5	5·04	15·13	45·85	16·74	21·58	Gibraltar, 12 months - - -	1
3rd	King's Royal Rifle Corps -	822	682	3	—	3	5	28·39	829·7	3·65	6·08	34·54	12·61	15·19	Gibraltar, 12 months - - -	4
Det.	Army Service Corps - -	52	39	—	—	—	—	1·68	750·0	—	—	22·11	11·79	15·72	Gibraltar - - - -	Various

Battery or Battalion.	Corps and Commands.	Average Annual Strength.	Admitted into Hospital.	Deaths. In the Command.	Deaths. Of Invalids.	Deaths. Total.	Invalids sent Home.	Average Number Constantly Sick.	Ratio per 1,000 of Strength. Admitted.	Died.	Invalided.	Constantly Sick.	Sick Time to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year.	Completed Years of Service in Command.
	GIBRALTAR—*cont.*												days.	days.		
Det.	Medical Staff Corps - -	76	81	2	—	2	—	2·53	1065·8	26·32	—	33·29	12·15	11·40	Gibraltar - - - -	Various
„	Ordnance Store Corps - -	23	13	—	—	—	1	·96	400·0	—	25·00	26·00	9·49	23·73	Gibraltar - - - -	„
„	Garrison Staff and Departments.	18	3	—	—	—	—	·08								
	MALTA.															
6th	Royal Artillery, Southern Division.	146	102	—	—	—	4	7·49	698·6	—	27·40	51·30	18·72	26·81	Cottonera, 12 months - - -	3
12th	Royal Artillery, Southern Division.	164	113	5	1	6	5	8·94	689·0	36·58	30·49	54·51	19·90	28·88	Valetta, 12 months - - -	3
14th	Royal Artillery, Southern Division.	126	94	1	—	1	3	7·36	746·0	7·94	23·81	58·41	21·32	28·57	Valetta, 9½ months. From Hong Kong, 18th March.	—
25th	Royal Artillery, Southern Division.	156	74	1	—	1	3	5·55	474·3	6·41	19·23	35·58	12·99	27·37	Valetta, 12 months - - -	3
32nd	Royal Artillery, Southern Division.	97	72	2	—	2	2	4·19	742·2	20·62	20·62	43·20	15·77	21·24	Cottonera, 9½ months. From Straits Settlements, 18th March.	—
35th	Royal Artillery, Southern Division.	157	98	—	—	—	4	5·85	624·2	—	25·48	37·26	13·60	21·78	Cottonera, 12 months - - -	1
36th	Royal Artillery, Southern Division.	188	139	3	—	3	4	9·03	739·3	15·96	21·28	48·03	17·53	23·71	Valetta, 12 months - - -	1
37th	Royal Artillery, Southern Division.	198	153	3	—	3	5	10·90	772·7	15·15	25·25	55·05	20·09	26·00	Valetta, 12 months - - -	1
	Royal Artillery. Other details (staff, &c.)	6	—	—	1	1	—	—	—	—	—	—	—	—	Various stations - - -	—
	Royal Engineers - -	150	72	—	—	—	2	4·94	480·0	—	13·33	32·93	12·02	25·04	Cottonera, 12 months. Details, various out stations.	Various
2nd	Royal Scots - - -	16	22	—	—	—	—	1·03	1375·0	—	—	64·37	23·49	17·09	Cottonera, 13 days.	—

Battery or Battalion.	Corps and Commands.	Average Annual Strength.	Admitted into Hospital.	Deaths. In the Command.	Deaths. Of Invalids.	Deaths. Total.	Invalids sent Home.	Average Number Constantly Sick.	Ratio per 1,000 of Strength. Admitted.	Died.	Invalided.	Constantly Sick.	Sick Time to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year.	Completed Years of Service in Command.
	MALTA—*cont.*												days.	days.		
1st	Bedfordshire Regiment -	582	468	9	—	9	10	29·13	804·1	15·46	17·18	50·05	18·27	22·72	Cottonera, 11 months. Detachment at Pembroke Camp, 4 months. To India, 19th December.	—
2nd	Border Regiment - -	123	93	3	—	3	2	6·58	756·0	24·39	16·26	53·50	19·53	25·82	Cottonera, 1½ months. Detachment at Pembroke Camp. To India, 21st February.	1
1st	Welsh Regiment - -	920	545	7	—	7	12	29·09	592·3	7·61	13·04	31·62	11·54	19·48	Cottonera, 11½ months. Detachments at Cottonera, Citta Vecchia, and Valetta, ½ month. Detachment at Pembroke Camp, 12 months.	1
1st	Royal Berkshire Regiment -	875	374	3	1	4	16	25·89	427·4	4·57	18·29	29·59	10·80	25·27	Valetta, 12 months. Detachment at Valetta, 1 month. Detachment at Pembroke Camp, 9 months.	4
1st	Royal West Kent Regiment -	950	482	5	2	7	19	29·11	507·3	7·36	20·00	30·64	11·18	22·04	Cottonera, 1½ months. Valetta, 10½ months. Detachment at Pembroke Camp, 10 months.	1
1st	Shropshire Light Infantry -	930	578	7	—	7	24	38·80	621·5	7·53	25·81	41·72	15·23	24·50	Valetta, 11½ months. Detachments at Pembroke Camp, and Gozo, 12 months.	4
2nd	Connaught Rangers - -	866	431	5	4	9	36	31·51	497·6	10·39	41·57	36·39	13·29	26·69	Pembroke Camp and Gozo, 11½ months. Valetta, ½ month.	1
2nd Dt.	Essex Regiment . - -	254	158	4	—	4	3	9·16	622·0	15·75	11·81	36·06	13·16	21·16	Cottonera, 12 months - - -	4
	Infantry. Other details -	5	2	—	—	—	—	·06	400·0	—	—	16·00	5·84	14·60	Various stations - - -	Various
Dt.	Medical Staff Corps -	101	67	1	—	1	3	4·22	663·3	9·90	29·70	41·78	15·25	22·99	„ - - -	„
	Garrison Staff and Departments.	45	14	1	—	1	3	1·28	311·1	22·22	66·67	28·44	10·38	33·37	„ - - -	„

Battery or Battalion.	Corps and Commands.	Average Annual Strength.	Admitted into Hospital.	Deaths.			Invalids sent Home.	Average Number Constantly Sick.	Ratio per 1,000 of Strength.				Average Sick Time to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year.	Completed Years of Service in Command.
				In the Command.	Of Invalids.	Total.			Admitted.	Died.	Invalided.	Constantly Sick.				
	CYPRUS.												days.	days.		
	Royal Engineers - -	2	—	—	—	—	—	—	—	—	—	—	—	—	Limasol, 8 months; Troodos, 4 months.	4
2nd	Essex Regiment - -	467	284	2	—	2	4	17·36	608·13	4·28	8·56	37·17	13·57	22·31	Polymedia and Nicosia, 8 months; Troodos, 4 months.	5
	Garrison Staff and Departments.	39	19	1	—	1	1	·62	487·18	25·64	25·64	15·89	5·80	11·91	Limasol, Polymedia, and Nicosia, 8 months; Troodo , 4 months.	Various
	CANADA.															
1st	Royal Artillery, Western Division.	36	10	—	—	—	—	·83	277·7	—	—	23·05	8·41	30·29	Halifax, 3½ months. To Bermuda, 19th April.	2
3rd	Royal Artillery, Western Division.	76	45	—	—	—	2	2·18	592·1	—	26·31	28·68	10·47	17·68	Halifax, 8½ months. From Bermuda, 18th April.	—
10th	Royal Artillery, Western Division.	19	6	2	—	2	—	·29	315·7	105·26	—	15·26	5·57	17·64	Halifax, 1½ months. To Jamaica, 15th February.	2
17th	Royal Artillery, Western Division.	73	70	—	—	—	3	3·69	958·9	—	41·09	50·54	18·45	19·29	Halifax, 8½ months. From Barbados 18th April.	—
20th	Royal Artillery, Western Division.	32	7	—	—	—	—	·26	218·7	—	—	8·12	2·96	13·55	Halifax, 3½ months. To Bermuda, 19th April.	2
24th	Royal Artillery, Western Division.	74	23	—	—	—	1	1·24	315·0	—	13·51	16·75	6·12	19·68	Halifax, 8½ months. From Bermuda, 18th April.	—
18th Co.	Royal Engineers - -	83	29	1	—	1	—	1·43	349·4	12·05	—	17·23	6·29	18·00	Halifax, 12 months - - -	3
40th Co.	Royal Engineers - -	94	18	1	—	1	—	·68	191·4	10·64	—	7·23	2·64	13·79	Halifax, 12 months - - -	2
2nd	West Riding Regiment -	840	334	3	—	3	15	24·09	457·1	3·57	17·85	28·68	10·47	22·90	Halifax, 12 months - - -	2
	Garrison Staff and Departments.	54	8	—	—	—	—	·19	148·1	—	—	3·52	1·28	8·67	Halifax - - - - -	Various

Battery or Battalion.	Corps and Commands.	Average Annual Strength.	Admitted into Hospital.	Deaths. In the Command.	Deaths. Of Invalids.	Deaths. Total.	Invalids sent Home.	Average Number Constantly Sick.	Ratio per 1,000 of Strength. Admitted.	Died.	Invalided.	Constantly Sick.	Average Sick Time to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year.	Completed Years of Service in Command.
													days.	days.		
	BERMUDA.															
1	Royal Artillery, Western Division.	97	64	—	—	—	2	2·74	659·8	—	20·62	28·25	10·31	15·63	St. George's, 8 months. From Halifax, 24th April. Detachments at Prospect and Watford.	—
3	Royal Artillery, Western Division.	32	30	—	—	—	—	1·09	937·5	—	—	34·06	12·43	13·26	St. George's, 3 months. To Halifax, 14th April.	3
10	Royal Artillery, Western Division.	8	4	—	—	—	—	·23	500·0	—	—	28·75	10·49	20·99	St. George's, 1 month. From Halifax, 18th February. To West Indies, 19th March.	—
20	Royal Artillery, Western Division.	79	71	—	—	—	—	2·66	898·7	—	—	33·67	12·29	13·67	St. George's, 8 months. From Halifax, 24th April.	—
24	Royal Artillery, Western Division.	44	21	—	—	—	—	·71	477·3	—	—	16·14	5·89	12·34	St. George's, 3 months. To Halifax, 14th April. Detachments at Prospect and Watford.	3
1st Co.	Royal Engineers - -	23	4	1	—	1	—	·22	173·9	43·48	—	9·57	3·49	20·08	Prospect, 4 months. Detachment at Watford. To England, 25th April.	2
27th Co.	Royal Engineers - -	62	54	1	2	3	3	2·42	871·0	48·39	48·39	39·03	14·25	16·36	St. George's, 12 months. Detachment at Watford.	2
36th Co.	Royal Engineers - -	79	52	1	1	2	2	2·95	658·2	25·32	25·32	37·34	13·62	20·71	Prospect, 9 months. From England, 10th March. Detachment at Watford.	—
2nd	Grenadier Guards - -	232	293	5	—	5	—	14·73	1262·9	21·55	—	63·49	23·17	18·35	St. George's, 5 months. From England, 6th August. Detachments at Watford and Prospect.	—
1st	Leicestershire Regiment -	825	376	8	—	8	14	16·04	455·8	9·70	16·97	19·44	7·10	15·57	Prospect, 12 months. Detachments at St. George's and Watford.	2
	Army Service Corps - -	8	1	1	—	1	—	·01	125·0	125·00	—	1·25	·46	3·65	Various stations - - -	Various
	Medical Staff Corps - -	21	9	1	—	1	—	·47	428·6	47·62	—	22·38	8·17	19·06	Various stations - - -	„
	Ordnance Store Corps - -	30	9	—	—	—	—	·38	300·0	—	—	12·67	4·62	15·41	Various stations - - -	„
	Garrison Staff - - -	6	—	—	—	—	—	—	—	—	—	—	—	—	Various stations - - -	„

Battery or Battalion.	Corps and Commands.	Average Annual Strength.	Admitted into Hospital.	Deaths.			Invalids sent Home.	Average Number Constantly Sick.	Ratio per 1,000 of Strength.				Sick Time to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year.	Completed Years of Service in Command.
				In the Command.	Of Invalids.	Total.			Admitted.	Died.	Invalided.	Constantly Sick.				
	WEST INDIES.															
	1. *Windward and Leeward Islands.*												days.	days.		
17th	Royal Artillery, Western Division.	27	48	1	—	1	—	3·03	1777·7	37·77	—	112·02	40·96	23·04	Barbados, 3½ months. To Halifax, 6th April.	5
23rd	Royal Artillery, Western Division.	81	175	—	—	—	2	8·40	2160·4	—	24·69	103·70	37·85	17·52	Barbados, 9 months. From Jamaica, 1st April.	5
	Royal Engineers - -	18	7	—	—	—	—	·29	388·8	—	—	16·11	5·88	15·12	Various - - - - -	Various
2nd	York and Lancaster Regiment	413	520	4	—	4	6	28·86	1259·0	9·68	14·53	69·64	25·56	20·26	Barbados, 12 months - - -	2
	West India Regiment - -	5	3	—	—	—	—	·12	600·0	—	—	24·00	8·76	14·60	Barbados, Demerara, and St. Lucia, 12 months.	Various
	Garrison Staff and Departments.	24	16	—	—	—	—	·69	666·6	—	—	28·75	10·49	15·74	Various stations - - -	"
	2. *Jamaica. Sub-Command.*															
10th	Royal Artillery, Western Division.	72	67	—	—	—	—	3·83	930·5	—	—	53·19	19·42	20·86	Newcastle, 9 months. From Bermuda, 26th March. Detachments at Port Royal, and Up Park Camp.	—
23rd	Royal Artillery, Western Division.	25	13	—	—	—	1	·63	520·0	—	40·00	25·50	9·20	17·69	Newcastle, 3 months. To Barbados, 26th March. Detachments at Port Royal, and Up Park Camp.	4
	Royal Artillery Coast Brigade Staff, &c.	2	1	—	—	—	—	·02	500·0	—	—	10·00	3·65	7·30	Newcastle - - - -	—
	Royal Engineers - -	36	12	—	—	—	—	·85	333·3	—	—	23·61	8·62	25·85	Newcastle, Port Royal, and Up Park Camp, various periods.	Various
2nd	York and Lancaster Regiment	302	361	3	—	3	18	19·93	1195·3	9·93	59·60	65·99	24·05	20·15	Newcastle, 12 months. Detachment at Up Park Camp.	2
1	West India Regiment - -	12	4	—	—	—	—	·24	333·3	—	—	20·00	7·30	21·90	Up Park Camp, 12 months. Detachments at Port Royal and Nassau.	2
Dep	West India Regiment - -	5	1	1	—	1	—	·01	200·0	200·00	—	2·00	·73	3·65	Up Park Camp, 12 months - -	Various.
	Garrison Staff and Departments.	22	13	—	1	1	3	·88	590·9	45·30	135·90	40·00	14·55	24·71	Newcastle, Port Royal, and Up Park Camp, various periods.	—

Battery or Battalion.	Corps and Commands.	Average Annual Strength.	Admitted into Hospital.	Deaths.			Invalids sent Home.	Average Number Constantly Sick.	Ratio per 1,000 of Strength.				Sick Time to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year.	Completed Years of Service in Command.
				In the Command.	Of Invalids.	Total.			Admitted.	Died.	Invalided.	Constantly Sick.				
	SOUTH AFRICA AND ST. HELENA.												days.	days.		
6th	Inniskilling Dragoons - -	363	417	3	1	4	21	26·12	1148·7	11·02	57·85	71·96	26·26	22·86	Pietermaritzburg, 10 months. To England, October.	9
11th	Hussars - - - -	195	186	2	—	2	—	9·21	953·8	10·26	—	47·23	17·24	18·07	Cape Town, 2 months; Pietermaritzburg, 2¼ months. From England, August.	—
4th	Royal Artillery, Mountain -	136	177	3	—	3	12	12·39	1301·4	22·06	88·23	91·10	33·25	25·55	Pietermaritzburg, 12 months. Detachment at Cape Town, 2 months.	6
8th	Royal Artillery, Southern Division.	120	71	1	—	1	3	5·48	591·6	8·33	25·00	45·66	16·67	28·17	Cape Town, 12 months - - -	1
29th	Royal Artillery, Southern Division.	102	68	—	—	—	6	4·87	666·6	—	58·82	47·74	17·43	26·14	Cape Town, 12 months - -	3
Dep	Royal Artillery, Western Division.	22	10	—	—	—	—	·36	454·5	—	—	16·36	5·97	14·14	St. Helena, 12 months - - -	6
29th Co.	Royal Engineers - -	81	35	—	—	—	2	2·06	432·1	—	24·69	25·43	9·28	21·48	Cape Town, 12 months. Detachments at various stations.	Various
1st	Royal Scots - - -	596	414	4	1	5	20	26·54	694·6	8·39	33·56	44·53	16·25	23·40	Pietermaritzburg, 12 months. Detachments at Eskowe, Inklands, and Etonjaneni.	6
1st	East Yorkshire Regiment -	831	505	3	2	5	22	33·29	607·7	6·01	26·40	40·06	14·62	24·06	Wynberg, 12 months. Detachments at St. Helena and Simon's Town.	2
1st	North Staffordshire Regiment	357	409	1	1	2	21	27·71	1145·6	5·60	58·82	77·62	28·33	24·72	Cape Town, 12 months - -	3
	Army Service Corps - -	29	7	—	—	—	—	·25	241·3	—	—	8·62	3·15	13·03	Various stations - - -	Various
	Ordnance Store Corps - -	41	11	—	—	—	—	·75	268·2	—	—	18·29	6·67	24·88	„ - - -	„
	Medical Staff Corps - -	57	14	1	1	2	1	·72	245·6	35·08	17·54	12·63	4·61	18·77	„ - - -	„
	Garrison Staff and Departments.	31	3	1	—	1	—	·09	96·7	32·26	—	2·90	1·06	10·95	„ - - -	„

Battery or Battalion.	Corps and Commands.	Average Annual Strength.	Admitted into Hospital.	Deaths. In the Command.	Deaths. Of Invalids.	Deaths. Total.	Invalids sent Home.	Average Number Constantly Sick.	Ratio per 1,000 of Strength. Admitted.	Died.	Invalided.	Constantly Sick.	Average Sick Time to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year.	Completed Years of Service in Command.
	MAURITIUS.												days.	days.		
4th	Royal Artillery, Southern Division.	88	189	3	—	3	16	12·10	2045·4	34·09	181·82	137·50	50·19	24·54	Port Louis and Curepipe, 12 months -	1
Dt.	Royal Engineers - -	27	23	2	—	2	2	1·35	851·8	74·07	74·07	50·00	18·25	21·38	Port Louis and Curepipe, 12 months -	Various
Dt. 1st	North Staffordshire Regiment	219	411	—	—	—	21	23·84	1876·7	—	95·89	104·11	38·00	20·28	Port Louis and Curepipe, 9½ months. To Cape Town, 18th September.	1
1st	North Staffordshire Regiment	163	193	2	—	2	4	10·15	1185·1	12·35	24·69	62·65	22·87	19·30	Port Louis and Curepipe, 3½ months. From Cape Town, 18th September.	—
	Garrison Staff and Departments.	20	10	—	—	—	3	·70	500·0	—	150·00	35·00	12·77	25·55	Port Louis and Curepipe, 12 months -	Various
	CEYLON.															
83rd	Royal Artillery, Southern Division.	83	86	1	1	2	7	4·25	1036·1	24·10	84·34	51·20	18·69	18·04	Colombo, 6 months; Trincomalee, 6 months.	4
43rd	Royal Artillery, Southern Division.	96	71	—	1	1	3	4·75	739·6	10·41	31·25	49·48	18·06	24·48	Colombo, 5¾ months; Trincomalee, 6¼ months.	4
	Royal Artillery, Staff - -	3	—	—	—	—	—	—	—	—	—	—	—	—	Colombo, 12 months - - -	Various
	Royal Engineers - -	32	27	—	—	—	1	·88	843·7	—	31·25	27·50	10·04	11·90	Various stations - - -	„
1st	Gordon Highlanders - -	785	671	5	1	6	23	44·34	854·8	7·65	29·30	56·48	20·62	24·12	Colombo, 12 months. Detachments, Kandy and Trincomalee.	2
	Garrison Staff and Departments.	29	12	1	—	1	1	1·58	413·7	34·48	34·48	54·48	19·89	48·06	Various stations - - -	Various
	CHINA.															
10th	Royal Artillery, Southern Division.	116	106	1	1	2	3	4·69	913·7	17·24	25·86	40·43	14·76	16·15	Hong Kong, 12 months - -	3
14th	Royal Artillery, Southern Division.	13	14	—	—	—	2	·76	1076·9	—	153·85	58·46	21·34	19·81	Hong Kong, 1½ months. To Malta 12th February.	4

Battery or Battalion.	Corps and Commands.	Average Annual Strength.	Admitted into Hospital.	Deaths. In the Command.	Deaths. Of Invalids.	Deaths. Total.	Invalids sent Home.	Average Number Constantly Sick.	Ratio per 1,000 of Strength. Admitted.	Died.	Invalided.	Constantly Sick.	Average Sick Time to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year.	Completed Years of Service in Command.
	CHINA—*cont.*												days.	days.		
30th	Royal Artillery, Southern Division.	106	104	2	—	2	—	4·92	981·1	23·30	—	46·42	16·94	17·27	Hong Kong, 11 months. From Malta 3rd February.	—
	Royal Engineers - -	135	86	1	—	1	—	4·02	637·0	7·40	—	29·77	10·86	17·06	Hong Kong, 12 months - -	Various
2nd	Northamptonshire Regiment -	17	29	—	—	—	2	1·24	1705·8	—	117·65	72·94	26·62	15·61	Hong Kong, 1¼ months. To Singapore 12th February.	4
1st	Argyll and Sutherland Highlanders.	939	1,337	6	2	8	27	53·51	1459·1	8·61	29·06	57·60	21·02	14·61	Hong Kong, 12 months - -	2
	Garrison Staff and Departments.	30	12	—	—	—	—	·26	400·0	—	—	8·67	3·16	7·90	Hong Kong, 12 months - -	Various
	STRAITS SETTLEMENTS.															
13th	Royal Artillery, Southern Division.	105	91	—	—	—	3	7·69	886·6	—	28·57	73·23	26·73	30·84	Fort Canning, 12 months - -	3
26th	Royal Artillery, Southern Division.	107	138	—	—	—	1	10·93	1289·7	—	9·34	102·15	37·28	28·90	Fort Canning 11 months. From Malta, 20th January.	—
32d	Royal Artillery, Southern Division.	13	28	—	—	—	2	1·65	2153·8	—	153·84	126·92	46·32	21·50	Fort Canning, 2 months. To Malta, 20th February.	3
	Royal Engineers - -	31	19	—	—	—	—	2·01	612·9	—	—	64·83	23·66	38·61	Pulo Brani and Tanglin, 12 months -	Various
2nd	Northamptonshire Regiment	963	1,382	5	—	5	19	99·29	1331·2	5·19	19·73	106·10	37·63	28·26	Tanglin, 12 months. Detachment, Penang, 12 months.	1
	Garrison Staff and Departments.	38	12	—	—	—	—	·79	315·7	—	—	2·78	7·58	24·03	Various stations - - -	Various
	EGYPT.															
17th	Lancers - - - -	29	13	—	—	—	—	·60	448·3	—	—	20·69	7·55	16·85	Abbassiyeh, 2 months. From India, 20th October.	—
20th	Hussars - - - -	97	79	1	—	1	2	5·53	814·4	10·31	20·63	56·91	20·77	25·50	Abbassiyeh, 9½ months. To England, 18th October.	5

Battery or Battalion.	Corps and Commands.	Average Annual Strength.	Admitted into Hospital.	Deaths. In the Command.	Deaths. Of Invalids.	Deaths. Total.	Invalids sent Home.	Average Number Constantly Sick.	Ratio per 1,000 of Strength. Admitted.	Died.	Invalided.	Constantly Sick.	Sick Time to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year.	Completed Years of Service in Command.
	EGYPT—*cont.*												days.	days.		
10th	Royal Artillery, Eastern Division.	141	101	—	—	—	1	5·59	716·3	—	7·09	39·65	14·47	20·20	Cairo, 12 months. Detachment, Alexandria, 12 months.	5
24th Co.	Royal Engineers - -	104	81	1	1	2	2	3·82	788·8	19·24	19·23	36·73	13·41	17·21	Cairo, 12 months. Detachment, Alexandria, 12 months.	6
2nd	Suffolk Regiment - -	765	999	23	—	23	7	64·36	1305·9	30·07	9·15	84·13	30·71	23·51	Alexandria, 12 months - -	1
2nd	King's Own Scottish Borderers	13	—	—	—	—	2	·54	—	—	16·66	45·00	16·42	—	Cairo, 2 days. To India, 2nd January	1
1st	Dorsetshire Regiment -	800	808	7	—	7	21	56·92	1010·0	8·75	26·25	71·15	25·97	25·71	Cairo, 12 months - - -	1
2nd	Essex Regiment - -	—	1	—	—	—	—	·07	—	—	—	—	—	25·55	One man disembarked at Alexandria, sick (*en route* to Cyprus).	—
2nd	Royal Irish Rifles - -	818	795	5	—	5	17	53·77	971·9	6·11	20·78	65·73	29·99	24·69	Cairo, 12 months - - -	3
	Mounted Infantry - -	122	147	—	—	—	—	6·08	1204·9	—	—	49·84	18·19	15·10	Abbassiyeh, 12 months. (Detachments from three Infantry Battalions).	Various
	Army Service Corps - -	77	35	—	—	—	—	1·97	454·5	—	—	25·58	9·34	20·54	Detachments at Cairo and Alexandria, 12 months.	„
	Ordnance Store Corps - -	65	22	—	—	—	2	1·64	338·5	—	30·77	25·23	9·21	27·21		
	Medical Staff Corps - -	82	49	1	—	1	2	2·98	597·6	12·20	24·39	36·34	13·26	22·30		
	Military Police - - -	79	42	1	—	1	1	2·03	531·6	12·66	12·66	25·70	9·38	17·64		
	Garrison Staff and Departments.	18	5	—	—	—	1	·30	277·7	—	55·55	16·66	6·08	21·90		

ABSTRACT No. XLI.—TABLE, taken from the REPORT of the PRINCIPAL MEDICAL OFFICER, showing the ADMISSIONS, MORTALITY, and INVALIDING in each CORPS serving in the BENGAL COMMAND during the Year 1890.

Corps.	Average Annual Strength.	Admitted into Hospital.	Deaths in the Command.	Invalided.	Daily Average Sick.	Ratio per 1,000 of Strength.				Sick to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year.	Years of Service in India.	
						Admissions into Hospital.	Deaths.	Invalids.	Average Daily Sick.	Average Time to Soldier.				
CAVALRY.										days.	days.		yrs.	mo.
1st (King's) Dragoon Guards	556	989	13	3	41·53	1688·8	23·38	5·40	74·68	27·26	16·14	Muttra, 9½ months; marching, 2½ months; Dett. at Chakrata, 6 months.	10	2½
2nd „ „ -	536	968	9	21	57·39	1787·3	16·79	39·18	107·07	39·08	21·87	Sialkot, 11 months; marching, 1 month; Dett. at Camp Topa, 7 months.	5	9
3rd „ „ -	537	1,254	14	9	61·25	2136·3	23·85	15·33	104·34	38·09	17·83	Rawal Pindi, 9½ months; marching, 2½ months; Dett. at Camp Topa, 7 months.	6	2
7th „ „ -	588	649	10	13	41·55	1103·7	17·01	22·11	70·66	25·79	23·37	Umballa, 12 months - - - - -	6	11
8th Lancers - - -	575	1,106	11	13	53·33	1923·5	19·13	22·61	92·75	33·85	17·60	Meerut, 12 months - - - - -	2	0
16th „ - - -	121	198	5	—	8·73	1636·4	41·32	—	72·15	26·33	16·09	Lucknow, 2½ months (arrived from England on 8th October 1890).	0	3
17th „ - - -	378	506	8	13	27·40	1338·6	21·16	34·39	72·49	26·46	19·76	Lucknow, 10 months (left for England on 30th October 1890).	11	0
Total - - -	3,341	5,610	70	72	291·17	1679·1	20·95	21·55	87·15	31·81	18·94			
ARTILLERY.														
Royal Horse Artillery.														
A Battery, R.H.A. - -	141	240	4	2	13·55	1702·1	28·37	14·18	96·10	35·08	20·61	Meerut, 12 months - - - - -	1	2
B „ „ - -	147	254	6	—	14·97	1727·9	40·82	—	101·84	37·17	21·51	Meerut, 12 months - - - - -	1	2

Corps.	Average Annual Strength.	Admitted into Hospital.	Deaths in the Command.	Invalided.	Average Daily Sick.	Ratio per 1,000 of Strength.				Sick Time to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year.	Years of Service in India.
						Admissions into Hospital.	Deaths.	Invalids.	Average Daily Sick.				
										days.	days.		yrs. mo.
ARTILLERY—*cont.*													
C Battery, R.H.A. - -	146	208	1	2	11·92	1424·7	6·85	13·70	81·64	29·80	20·92	Umballa, 11½ months; marching, ¾ months -	1 2
H „ „ - -	146	278	2	4	15·02	1904·1	13·70	27·40	102·88	37·55	19·72	Sialkot, 8¼ months; Campbellpore, ¾ month; marching, 3 months.	1 2
P „ „ -	161	243	4	2	12·35	1509·3	24·84	12·42	76·71	28·00	18·55	Lucknow, 11¼ months; marching, ¼ month -	13 1
Q „ „ - -	152	158	6	1	8·05	1039·5	39·47	6·58	52·96	19·33	18·60	Umballa, 11¾ months; marching, ¼ month -	10 0
T „ „ - -	145	247	7	9	9·36	1703·4	48·28	62·07	64·55	23·56	13·83	Rawal Pindi, 8¾ months; Campbellpore, ¾ month; marching, 2¾ months.	12 1½
Royal Artillery.													
2nd Field Battery, R.A. -	152	205	—	4	13·89	1348·7	—	26·32	91·38	33·35	24·73	Agra, 12 months - - - -	9 11½
4th „ „ -	121	227	3	—	16·92	1876·0	24·79	—	139·83	51·04	27·21	Dinapore, 9¾ months (left for Deolalee on 13th October 1890).	12 10
8th „ „ -	141	288	2	7	12·72	2042·6	14·18	49·65	90·21	32·93	16·12	Rawal Pindi, 10½ months; Campbellpore, ¾ month; marching, 1 month	9 11½
9th „ „ -	134	244	3	6	13·85	1820·9	22·39	44·78	103·36	37·73	20·72	Cawnpore, 12 months - - - - -	7 2
15th „ „ -	147	259	6	4	14·14	1761·9	40·82	27·21	96·19	35·11	19·93	Meerut, 9¾ months; marching, 2¼ months - -	3 0
22nd „ „ -	165	199	3	4	12·47	1206·1	18·18	24·24	75·58	27·59	22·87	Bareilly, 12 months - - - - -	4 0
24th „ „ -	24	74	2	—	2·74	3083·3	83·33	—	114·17	41·67	13·51	Jhansi, 1 month and 25 days (arrived from England on 5th November 1890).	0 2
28th „ „ -	121	139	1	2	9·04	1148·8	8·26	16·53	74·71	27·27	23·74	Mooltan, 10½ months (left for Karachi on 15th November 1890).	12 1½
31st „ „ -	144	255	3	8	11·30	1770·8	20·83	55·56	78·47	28·64	16·17	Barrackpore, 11½ months; Calcutta, ¾ month -	2 2

Corps.	Average Annual Strength.	Admitted into Hospital.	Deaths in the Command.	Invalided.	Average Daily Sick.	Ratio per 1,000 of Strength.				Sick to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year.	Years of Service in India.
						Admissions into Hospital.	Deaths.	Invalids.	Average Daily Sick.	Average Time			
										days.	days.		yrs. mo.
ARTILLERY—*cont.*													
34th Field Battery, R.A. -	26	30	—	—	1·48	1153·8	—	—	56·92	20·78	18·01	Allahabad, ⅔ month; Jubbulpore, ⅓ month; marching, 25 days (arrived from England on 5th November 1890).	0 2
37th „ „ -	114	206	—	4	11·10	1807·0	—	35·09	97·37	35·54	19·67	Jubbulpore, 9½ months (left for England on 16th October 1890).	12 11
39th „ „ -	147	305	—	3	14·87	2074·8	—	20·41	101·16	36·92	17·80	Ferozepore, 10½ months; Meean Meer, ½ month; marching, ½ month.	9 11½
43rd „ „ -	157	192	1	5	10·99	1222·9	6·37	31·85	70·00	25·55	20·99	Lucknow, 12 months - - - - -	10 0
44th „ „ -	145	295	2	1	13·89	2034·5	13·79	6·90	95·79	34·96	17·19	Peshawar, 9½ months; Campbellpore, ½ month; marching, 1½ months.	10 0
46th „ „ -	26	49	—	—	3·53	1884·6	—	—	135·77	49·56	26·29	Fyzabad, 1½ months (arrived from England on 8th November 1890).	0 2
50th „ „ -	145	286	3	1	13·97	1972·4	20·69	6·90	96·34	35·17	17·83	Campbellpore, 10 months; marching, 2 months -	4 0
51st „ „ -	25	35	1	—	1·75	1400·0	40·00	—	70·00	25·55	18·25	Dinapore, 1½ months (arrived from England on 9th November 1890).	0 2
54th „ „ -	23	35	1	—	2·07	1521·7	43·48	—	90·00	32·85	21·59	Nowgong, 1½ months (arrived from England on 8th November 1890).	0 2
60th „ „ -	137	376	3	6	16·81	2744·5	21·90	43·80	122·70	44·79	16·32	Meean Meer, 11½ months; marching, ½ month; Dett. at Dalhousie, 12 months.	4 0
65th „ „ -	146	243	1	2	14·46	1664·4	6·85	13·70	99·04	36·15	21·72	Jullundur, 10½ months; Meean Meer, ½ month; marching, 1 month; Dett. at Dalhousie, 12 months.	10 0
68th „ „ -	121	397	5	6	17·23	3281·0	41·32	49·59	142·40	51·97	15·84	Meean Meer, 11½ months; marching, ½ month; Dett. at Dalhousie, 12 months.	9 11½
70th „ „ -	152	365	3	4	22·68	2401·3	19·74	26·32	149·21	54·46	22·68	Meerut, 12 months - - - - -	4 1½
71st „ „ -	148	232	5	3	19·65	1567·6	33·78	20·27	132·77	48·46	30·91	Alhahabad, 10½ months; marching, 1½ months -	3 0
73rd „ „ -	119	285	4	2	15·65	2395·0	33·61	16·81	131·51	48·00	20·04	Jhansi, 9½ months (left for England on 16th October 1890).	12 11

Corps.	Average Annual Strength.	Admitted into Hospital.	Deaths in the Command.	Invalided.	Average Daily Sick.	Ratio per 1,000 of Strength.				Average Sick Time to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year.	Years of Service in India.
						Admissions into Hospital.	Deaths.	Invalids.	Average Daily Sick.				
ARTILLERY—*cont.*										days.	days.		yrs. mo.
74th Field Battery, R.A.	114	136	1	4	8·33	1193·0	8·77	35·09	73·07	26·67	22·36	Lucknow, 27 days; Fyzabad, 8¼ months; marching, 4 days (left for England on 14th October 1890).	12 11
77th „ „	125	343	—	2	17·31	2744·0	—	16·00	138·48	50·55	18·42	Nowgong, 9½ months (left for England on 14th October 1890).	13 9
78th „ „	141	283	1	1	12·02	2007·1	7·09	7·09	85·25	31·12	15·50	Saugor, 11½ months; marching, ½ month	12 1½
No. 1 Mountain Battery, R.A.	92	131	—	1	6·94	1423·9	—	10·87	75·43	27·53	19·34	Rawal Pindi, 4 months; Kalabagh, 6½ months; marching, 1½ months.	7 2
„ 2 „ „	6	7	—	—	1·00	1166·7	—	—	166·67	60·83	52·14	Rawal Pindi, 1 month (left for Burma on 30th January 1890).	4 11
„ 3 „ „	102	135	—	—	6·62	1323·5	—	—	64·90	23·69	17·90	Darjeeling, 11 months; marching, 1 month	12 1
„ 5 „ „	94	119	—	2	7·08	1266·0	—	21·28	75·32	27·49	21·72	Umballa, 4 months, 4 days; Jutogh, 7 months, 4 days; marching, 22 days.	12 1
„ 6 „ „	100	148	1	4	8·04	1480·0	10·00	40·00	80·40	29·35	19·83	Rawal Pindi, 4 months; Khyragully, 6½ months; marching, 1½ months.	5 2
„ 7 „ „	87	89	—	3	4·77	1023·0	—	34·48	54·83	20·01	19·56	Quetta, 12 months	4 10
„ 8 „ „	90	75	—	2	4·41	833·3	—	22·22	49·00	17·88	21·46	Umballa, 3½ months; Jutogh, 6½ months; marching, 2 months.	3 2
„ 9 „ „	94	87	3	2	4·62	925·5	31·91	21·28	49·15	17·94	19·38	Rawal Pindi, 4 months; Baragully, 6½ months; marching, 1½ months.	6 2
4th Battery, Eastern Div., R.A.	107	146	1	4	8·67	1364·5	9·35	37·38	81·03	29·58	21·67	Ferozepore, 12 months; Dett. at Amritsar, 12 months.	2 0
8th „ „ „	93	106	3	2	5·62	1139·8	32·26	21·51	60·43	22·06	19·35	Roorkee, 10½ months; Fort Allahabad, 1 month; marching, ½ month.	3 2
14th „ „ „	102	290	3	3	12·02	2843·1	29·41	29·41	117·84	43·01	15·13	Rawal Pindi, 12 months	9 11½
15th „ „ „	99	158	2	4	7·45	1596·0	20·20	40·40	75·25	27·47	17·21	Delhi, 12 months	9 2
23rd „ „ „	87	175	2	1	7·48	2011·5	22·99	11·49	85·98	31·38	15·60	Jhansi, 11½ months; marching, ½ month	6 2

Corps.	Average Annual Strength.	Admitted into Hospital.	Deaths in the Command.	Invalided.	Daily Average Sick.	Ratio per 1,000 of Strength.				Sick Time to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year.	Years of Service in India.
						Admissions into Hospital.	Deaths.	Invalids.	Average Daily Sick.				
										days.	days.		yrs. mo.
ARTILLERY—*cont.*													
7th Battery, Southern Division, R.A.	105	244	4	1	16·69	2323·8	38·10	9·52	130·38	47·59	20·48	Fort Allahabad, 10 months, 24 days; Roorkee, 1 month (marching by rail, 6 days).	5 1½
No. 20 Battery, Southern Div., R.A.	107	132	1	2	7·13	1233·6	9·35	19·69	66·64	24·32	19·72	Calcutta, 12 months - - - - - -	11 0
No. 21 Battery, Southern Div., R.A.	113	215	1	1	8·84	1902·7	8·85	8·85	78·23	28·55	15·01	Barrackpore, 12 months - - - -	1 1½
No. 24 Battery, Southern Div., R.A.	83	171	—	—	7·35	2060·2	—	—	88·55	32·32	15·69	Campbellpore, 10 months; marching, 2 months -	3 2
No. 28 Battery, Southern Div., R.A.	95	97	1	1	3·92	1021·1	10·53	10·53	41·26	15·06	14·75	Roorkee, 10½ months; Agra, 1 month; marching, ½ month.	7 2
No. 2 Battery, Western Div., R.A.	99	115	1	3	6·00	1161·6	10·10	30·30	60·61	22·12	19·04	Quetta, 12 months - - - - - -	11 2
No. 6 Battery, Western Div., R.A.	85	164	2	1	6·75	1929·4	23·53	11·76	79·41	28·99	15·02	Calcutta, ½ month; Roorkee, 11½ months; marching, 3 days (marching by rail, 3 days).	11 3
No. 11 Battery, Western Div., R.A.	107	138	2	2	6·26	1289·7	18·69	18·69	58·50	21·35	16·56	Rawal Pindi, 5 months, 18 days; Camp Thobba, 6 months, 6 days; marching 6 days. Dett. at Fort Attock, 12 months.	3 2
No. 12 Battery, Western Div., R.A.	105	170	6	1	9·69	1619·0	57·14	9·52	92·29	33·68	20·81	Agra, 11 months; Roorkee, 1 month - -	11 0
No. 16 Battery, Western Div., R.A.	88	128	1	—	5·39	1454·5	11·36	—	61·25	22·36	15·37	Roorkee, 11½ months; marching, ½ month - -	3 2
Total - -	6,338	10,851	118	139	569·82	1712·1	18·62	21·93	89·90	32·82	19·17		
H. Coy. Royal Engineers -	33	28	—	1	1·22	848·5	—	30·30	36·97	13·49	15·90	Roorkee, 12 months; Detts. at Calcutta and Allahabad, 12 months.	23 0
INFANTRY.													
2nd R.W. Surrey Regiment -	994	903	14	15	74·02	908·5	14·08	15·09	74·47	27·18	29·92	Umballa, 12 months; wing at Solon, 6 months; Dett. at Dagshai, 6 months.	12 10

Corps.	Average Annual Strength.	Admitted into Hospital.	Deaths in the Command.	Invalided.	Daily Average Sick.	Ratio per 1,000 of Strength.				Average Time Sick to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year.	Years of Service in India.
						Admissions into Hospital.	Deaths.	Invalids.	Average Daily Sick.				
INFANTRY—*cont.*										days.	days.		yrs. mo.
1st East Kent Regiment -	977	1,987	7	37	93·84	2033·8	7·16	37·87	96·05	35·06	17·24	Calcutta, 1 month; Dum Dum, 11 months; Detts. at Barrackpore and Darjeeling (12 months).	3 9
2nd Northumberland Fusiliers	971	1,165	6	23	63·49	1199·8	6·18	23·69	65·39	23·87	19·89	Rawal Pindi, 3¾ months; Camp Gharial, 6½ months; Nowshera, 1 month; marching, 1 month; Dett. at Thobba, 3 months.	10 11
2nd Royal Warwickshire Regt.	910	1,358	6	30	89·45	1492·3	6·59	32·97	98·30	35·88	24·04	Mooltan, 12 months; Dett. at Dalhousie, 12 months.	12 2
2nd Liverpool Regiment -	921	1,422	9	38	78·42	1544·0	9·77	41·26	85·15	31·08	20·13	Lucknow, ¾ month; Fyzabad, 8¼ months; Dinapore, 2¾ months; marching, ¾ month.	13 2
2nd Lincolnshire Regiment -	883	1,433	19	9	95·07	1622·9	21·52	10·19	107·67	39·30	24·22	Cawnpore, 12 months; Detts. at Allahabad and Fatehgarh, 12 months.	8 11
2nd Devonshire Regiment -	898	936	5	18	55·16	1042·3	5·57	20·04	61·43	22·42	21·51	Rawal Pindi, 3¾ months; Kulduunah, 6¼ months; marching, 1 month (left for Rangoon on 8th December 1890).	13 9½
1st Suffolk Regiment - -	1,018	2,011	13	7	101·46	1975·4	12·77	6·88	99·67	36·38	18·42	Jhansi, 12 months; wing at Nowgong, 12 months; Dett. at Sipri, 12 months.	14 2
2nd West Yorkshire Regiment	906	1,517	6	26	79·39	1674·4	6·62	28·70	87·63	31·98	19·10	Umballa, 3 months, 25 days; Dagshai, 7 months, 25 days; marching, 10 days.	12 2
2nd Royal Irish Regiment -	932	1,577	10	17	80·40	1692·1	10·73	18·24	86·27	31·49	18·61	Peshawar, 5 months; Cherat, 5½ months, marching, 1¾ months. Depôt at Peshawar, 7 months.	5 11
2nd Royal Scots Fusiliers -	963	2,119	14	7	89·38	2223·5	14·69	7·35	93·79	34·23	15·40	Rawal Pindi, 1 month, 4 days; Nowshera, 8 months, 25 days; Peshawar, 1 month, 19 days; marching 11 days; Dett. at Cherat, 6 months.	8 11
1st Royal Welsh Fusiliers -	921	1,419	16	70	94·42	1540·7	17·37	76·00	102·52	37·42	24·29	Lucknow, 10¼ months; Peshawar, ¾ month; marching, 1 month; Dett. at Ranikhet, 6 months.	10 3½
2nd South Wales Borderers -	983	1,224	15	19	76·93	1245·2	15·26	19·33	78·26	28·57	22·94	Bareilly, 2 months; Ranikhet, 8 months; Allahabad, ¼ month; marching, 1¾ months.	10 4
2nd K.O. Scottish Borderers -	819	985	14	1	52·28	1202·7	17·09	1·22	63·83	23·50	19·37	Umballa, 3¾ months; Subathu, 7 months; marching ¾ month; arrived from England on 25th January 1890.	0 11½
2nd Scottish Rifles - -	930	1,417	17	58	97·30	1523·7	18·28	62·37	104·62	38·19	25·06	Lucknow, 12 months - - - - -	11 1½

Corps.	Average Annual Strength.	Admitted into Hospital.	Deaths in the Command.	Invalided.	Average Daily Sick.	Ratio per 1,000 of Strength.				Average Sick Time to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year.	Years of Service in India.
						Admissions into Hospital.	Deaths.	Invalids.	Average Daily Sick.				
INFANTRY—*cont.*										days.	days.		yrs. mo.
1st Worcestershire Regiment	174	110	1	3	7·05	632·2	5·75	17·24	40·52	14·79	23·39	Quetta, 2 months 7 days (left for Poona on the 7th March 1890).	11 10
1st East Lancashire „ -	964	1,486	10	17	82·78	1541·5	10·37	17·63	85·87	31·34	20·33	Lucknow, ¾ month; Sitapur, 11¼ months; wing at Benares, 12 months; Dett. at Chunar, 5 months.	10 0
1st East Surrey „ -	988	1,968	4	21	103·95	1991·9	4·05	21·26	105·21	38·40	19·28	Calcutta, 12 months - - - - -	5 11¼
2nd Border Regiment - -	617	775	10	8	41·15	1256·1	16·21	12·97	66·69	24·34	19·38	Chakrata, 6 months 25 days; Meerut, 26 days; marching, 1 month 15 days (arrived from England on the 26th March 1890).	0 10
2nd Royal Sussex Regiment -	923	1,625	12	20	81·11	1760·6	13·00	21·67	87·98	32·07	18·22	Ferozepore, 12 months; Dett. at Dalhousie, 12 months.	5 0
2nd Derbyshire „ -	877	1,939	7	41	100·37	2210·9	7·98	46·75	114·45	41·77	18·89	Jubbulpore, 12 months; Dett. at Saugor, 12 months.	8 2
2nd King's Own Yorkshire Light Infantry.	858	939	5	13	53·30	1094·4	5·83	15·15	62·12	22·67	20·72	Quetta, 12 months - - - - -	3 10
4th King's Royal Rifle Corps	813	1,242	16	5	82·03	1527·7	19·68	6·15	100·90	36·83	24·11	Meerut, 14 days; Allahabad, 8 months 4 days; marching, 1 month 10 days (left for Rangoon on the 31st October 1890).	14 1
2nd Wiltshire Regiment -	943	1,816	18	13	93·02	1925·8	19·09	13·79	98·64	36·00	18·70	Mecan Meer, 12 months; Detts. at Fort Lahore and Dalhousie, 12 months.	8 11
2nd Manchester „ -	952	1,891	8	4	102·76	1986·3	8·40	4·20	107·94	39·40	19·83	Meerut, 1 month 3 days; Sialkot, 9¾ months; marching, 1 month 6 days; Detts. at Amritsar, 12 months, and Camp Thobba, 6 months.	8 2
2nd Durham Light Infantry -	771	957	12	4	52·69	1241·2	15·56	5·19	68·55	24·94	20·10	Quetta, 9¾ months (arrived from Poona on the 14th March 1890).	3 10
2nd Highland Light Infantry	940	1,447	8	5	77·04	1539·4	8·51	5·32	81·96	29·91	19·43	Peshawar, 10¾ months; marching, 1¼ months; Dett. at Cherat, 5 months.	6 2
2nd Seaforth Highlanders -	991	1,285	12	18	71·55	1296·7	12·11	18·16	72·20	26·35	20·32	Rawal Pindi, 11 months; marching, 1 month; Dett. at Camp Ghora Dhaka, 6 months.	11 9¼

Corps.	Average Annual Strength.	Admitted into Hospital.	Deaths in the Command.	Invalided.	Average Daily Sick.	Ratio per 1,000 of Strength.				Sick Time to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year.	Years of Service in India.
						Admissions into Hospital.	Deaths.	Invalids.	Average Daily Sick.				
INFANTRY—*cont.*										days.	days.		yrs. mo.
1st Royal Irish Fusiliers -	935	1,870	17	18	88·71	2000·0	18·18	19·25	94·88	34·63	17·32	Rawal Pindi, 1 month 3 days; Meerut, 9 months 3 days; marching, 1 month 24 days; Detts. at Delhi, 9 months; Chakrata, 6 months.	7 2
1st Connaught Rangers -	652	1,382	12	21	82·08	2119·6	18·40	32·21	125·89	45·95	21·68	Dinapore, 10 months (left for Aden on the 30th October 1890); Dett. at Gnathong, 7 months.	11 2
1st Leinster Regiment -	911	1,473	21	20	104·59	1616·9	23·05	21·95	114·81	41·90	25·92	Agra, 9½ months; marching, 2½ months - -	13 1½
2nd Royal Munster Fusiliers -	862	1,387	16	29	96·59	1609·0	18·56	33·64	112·05	40·90	25·42	Bareilly, 4½ months; Chaubuttia, 7½ months; marching, ½ month; wing at Shahjehanpur, 12 months.	6 9
1st Bn. Rifle Brigade - -	938	1,197	28	36	70·48	1276·1	29·85	38·38	75·14	27·43	21·49	Bareilly, 12 months; Dett. at Ranikhet, 6½ months.	10 3½
3rd „ „ - -	932	1,157	15	25	61·97	1241·4	16·09	26·82	66·49	24·27	19·55	Jullunder, 11 months; Meean Meer, ½ month; marching, ½ month; Detts. at Dalhousie, 12 months; Bhatgsu, 6 months.	1 10
Total - - -	30,057	47,419	403	696	2674·23	1577·6	13·41	23·16	88·97	32·47	20·58		
Garrison Staff and Departments.	1,358	1,480	43	128	131·26	1089·8	31·66	94·26	96·66	35·28	32·37	Various station hospitals.	
Men of various Corps, marching.	16	7	3	—	·57	437·5	187·50	—	35·62	13·00	29·72	Various station hospitals.	
Grand Total - -	41,143	65,395	637	1,036	3668·27	1589·5	15·48	25·18	89·16	32·54	20·47		

ABSTRACT No. XLII.—TABLE, taken from the REPORT of the PRINCIPAL MEDICAL OFFICER, showing the ADMISSIONS, MORTALITY, and INVALIDING in each CORPS serving in the MADRAS COMMAND during the Year 1890.

Corps.	Average Annual Strength.	Admitted into Hospital.	Deaths in the Command.	Invalided.	Average Number Constantly Sick.	Ratio per 1,000 of Strength.				Average Sick Time to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year.		Years of Service in India.	
						Admissions into Hospital.	Deaths.	Invalids.	Average Constantly Sick.						
CAVALRY.										days.	days.		months.	yrs.	mo.
7th Hussars	543	572	3	8	43·69	1053·40	5·52	14·73	80·46	29·37	27·88	Secunderabad	12	4	0
21st Hussars	595	657	3	12	45·69	1104·20	5·04	20·17	76·80	28·03	25·38	Bangalore	12	3	0
Details Cavalry Regiment	8	4	—	—	·18	500·00	—	—	22·50	8·21	16·42				
Total	1,146	1,233	6	20	89·56	1075·91	5·23	17·45	78·15	28·52	26·51				
ROYAL ARTILLERY.															
M. By., Royal Horse Artillery	140	204	2	—	12·28	1457·14	14·28	—	87·71	32·02	21·97	Secunderabad	12	4	11
R. „ „ „	167	164	2	5	9·00	982·03	11·97	29·94	53·89	19·67	20·03	Bangalore; left 3rd November, 1890	10	9	0
S. „ „ „	14	16	—	—	·20	1142·86	—	—	14·28	5·21	4·56	On the March to Bangalore; arrived 26th November 1890	1	5	0
19th Field By., Royal Artillery	158	185	1	3	11·10	1170·88	6·33	18·98	70·25	25·64	21·90	Bangalore	12	11	0
20th „ „	153	242	—	6	15·76	1581·70	—	39·21	103·01	37·60	23·77	St. Thomas' Mount	12	11	0
21st „ „	154	252	—	—	15·08	1636·36	—	—	97·92	35·74	21·84	Bellary	12	5	0
38th „ „	143	130	2	2	9·91	909·09	13·99	13·99	69·30	25·29	27·82	Secunderabad	12	12	0
59th „ „	155	240	2	3	13·03	1548·38	12·90	19·37	84·06	30·68	19·81	St. Thomas' Mount; left 18th November 1890	10½	6	0

Corps.	Average Annual Strength.	Admitted into Hospital.	Deaths in the Command.	Invalided.	Average Number Constantly Sick.	Ratio per 1,000 of Strength.				Average Sick Time to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year.	Years of Service in India.	
						Admissions into Hospital.	Deaths.	Invalids.	Average Constantly Sick.					
ROYAL ARTILLERY—*cont.*										days.	days.		months.	yrs. mo.
61st Field By., Royal Artillery	157	252	3	2	17·02	1605·09	19·11	12·74	108·41	39·57	24·65	Bangalore, - - - - - -	12	11 10
76th „ „ -	157	208	2	2	11·44	1324·84	12·74	12·74	72·87	26·59	20·07	Belgaum, 10½ months; on the march, 1½ month - - - - - -	12	11 0
79th „ „ -	163	164	2	1	13·80	1006·13	12·27	6·13	84·66	30·90	30·71	Secunderabad - - - - -	12	12 0
No. 1 By., Eastern Div., R.A. -	103	300	—	5	17·55	2912·62	—	48·54	170·39	62·19	21·35	Mandalay - - - - - -	12	2 0
No. 13 „ „ „ -	115	169	2	1	9·86	1469·56	17·39	8·70	85·74	31·29	21·29	Thayetmyo - - - - -	12	4 2
No. 21 „ „ „ -	92	220	3	3	12·00	2391·30	32·61	32·61	130·43	47·61	19·91	Madras, 11½ months; on the march, ½ month	12	9 0
No. 22 „ „ „ -	97	90	—	1	5·97	927·83	—	10·31	61·55	22·46	24·21	Secunderabad - - - - -	12	9 2
No. 9 „ Southern Div., R.A.	114	222	4	7	17·62	1947·37	35·09	61·40	154·56	56·41	23·97	Rangoon - - - - - -	12	4 0
No. 2 Mountain Battery -	91	152	6	1	12·29	1670·33	65·93	10·99	135·05	49·29	29·51	Mandalay, arrived 15th February 1890 -	10½	4 0
Details Royal Artillery -	45	31	1	—	2·80	688·88	22·22	—	62·22	22·71	32·96			
Total - -	2,218	3,241	32	42	206·71	1461·22	14·43	18·93	93·19	34·01	23·28			
ROYAL ENGINEERS.														
K. Company, Royal Engineers	34	10	—	—	·52	294·12	—	—	15·29	5·58	18·98	Bangalore - - - - -	12	15 0

Corps.	Average Annual Strength.	Admitted into Hospital.	Deaths in the Command.	Invalided.	Average Number Constantly Sick.	Ratio per 1,000 of Strength.				Sick Time to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year.	Years of Service in India.
						Admissions into Hospital.	Deaths.	Invalids.	Average Constantly Sick.				
INFANTRY REGIMENTS.										days.	days.	months.	yrs. mo.
1st Bn. Norfolk Regiment -	958	1,279	5	12	74·20	1335·07	5·22	12·52	77·45	28·27	21·18	Wellington (Detts. Cannanore, Calicut, and Malappram) - - - - - - 12	1 10
2nd Bn. Devonshire Regiment	51	105	1	—	2·72	2058·82	19·61	—	53·33	19·46	9·45	Shwebo (arrived on the 2nd December 1890) 1	13 0
2nd Bn. Somersetshire L. I. -	968	882	3	27	57·82	892·71	3·04	27·33	58·52	21·36	23·92	Belgaum - - - - - - 12	12 9
2nd Bn. Bedfordshire Regiment.	904	942	9	11	65·40	1042·03	9·95	12·17	72·34	26·40	25·34	Secunderabad (Dett. at Ramandroog) - 12	14 10
2nd Bn. Yorkshire Regiment -	687	826	4	—	52·83	1202·33	5·82	—	76·90	28·07	23·34	Bangalore (arrived from England on the 4th February 1890) - - - - - 11	0 11
1st Bn. Cheshire Regiment -	806	1,086	9	23	64·73	1347·39	11·16	28·53	80·31	29·31	21·76	Thayetmyo (wing at Myingyan) - - 12	3 2
1st Bn. King's Own Scott. Bor.	583	1,077	8	23	78·20	1847·34	13·72	39·45	134·13	48·96	26·50	Rangoon (left on the 21st December 1890) - 11½	15 1
2nd Bn. Royal Inniskilling Fus.	778	1,057	7	18	74·17	1358·61	8·99	23·13	95·33	34·80	25·61	Secunderabad - - - - - 12	1 11
1st Bn. Duke of Corn. L. I. -	963	1,838	8	40	120·49	1908·62	8·31	41·53	125·12	45·67	23·92	Bellary (wing at Madras; Dett. at Pallaveram) 12	2 10
1st Bn. Border Regiment -	586	1,170	13	15	66·15	1996·58	22·18	25·60	112·88	41·20	20·64	Mandalay (Detts. at Bhamo and Bernard-myo, left on the 7th November 1890) - 10	15 1
1st Bn. Hampshire Regiment -	857	1,697	14	28	76·57	1980·16	16·33	32·66	89·34	32·61	16·47	Mandalay (Detts. at Bhamo and Shwebo, left on the 17th December 1890) - - - 11½	4 11
2nd Bn. Oxfordshire L. I. -	897	1,120	22	12	66·53	1248·61	24·52	13·37	74·16	27·07	21·68	Toungoo (Dett. at Meiktila and Port Blair) 12	4 9
4th Bn. Rifle Brigade - -	107	186	1	2	8·62	1738·32	9·34	18·68	80·55	29·40	16·91	Mandalay (arrived on the 6th November 1890) - - - - - - 2	15 0

Corps.	Average Annual Strength.	Admitted into Hospital.	Deaths in the Command.	Invalided.	Average Number Constantly Sick.	Ratio per 1,000 of Strength.				Sick Time to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year.	Years of Service in India.
						Admissions into Hospital.	Deaths.	Invalids.	Average Constantly Sick.				
										days.	days.		
INFANTRY REGIMENTS—*cont.*													
Details Infantry Regiments -	209	210	—	3	13·04	1004·78	—	14·35	62·39	22·77	22·67		
Total - -	9,374	13,475	104	214	821·47	1437·48	11·09	22·83	87·63	31·98	22·25		
CONVALESCENT DEPÔTS.													
Poonamallee - - -	113	306	5	23	31·07	2707·96	44·24	203·54	274·95	100·36	37·06		
Wellington - - -	444	671	8	12	41·53	1511·26	18·02	27·03	93·53	34·14	22·59		
Total - -	557	977	13	35	72·60	1754·04	23·34	62·84	130·34	47·57	27·12		
Garrison Staff and Departments.	222	160	5	—	11·34	720·72	22·52	—	51·08	18·64	25·87		
Grand Total - -	13,551	19,096	160	311	1202·20	1409·19	11·81	22·95	88·71	32·38	22·98		

ABSTRACT No. XLIII.—TABLE taken from the REPORT of the PRINCIPAL MEDICAL OFFICER, showing the ADMISSIONS, MORTALITY, and INVALIDING in each CORPS serving in the BOMBAY COMMAND during the Year 1890.

Corps.	Average Annual Strength.	Admitted into Hospital.	Died.	Invalids sent Home.	Average Number Constantly Sick.	Ratio per 1,000 of Strength.				Sick Time to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year.	Completed Years of Service in the Command.
						Admitted.	Died.	Invalided.	Constantly Sick.				
										days.	days.		
CAVALRY.													
18th Hussars	500	766	9	14	39·50	1532·0	18·00	28·00	79·00	28·83	18·82	Mhow, 12 months	1
Total	500	766	9	14	39·50	1532·0	18·00	28·00	79·00	28·83	18·82		
ROYAL ARTILLERY.													
N. Royal Horse Artillery	155	214	—	3	11·50	1380·6	—	19·35	74·19	27·08	19·61	Mhow, 12 months	5
R. „ „	—	1	—	—	—	—	—	—	—	—	—	Kirkee, 2 days (arrived from Bangalore)	13
S. „ „	133	146	1	7	9·38	1097·7	7·52	52·63	70·53	25·74	23·45	Kirkee, 10½ months (left for Bangalore)	5
5th Field Battery, R.A.	142	179	1	2	11·37	1260·6	7·04	14·08	80·07	29·22	23·18	Kamptee, 11½ months (left for St. Thomas' Mount).	7
10th „ „	137	228	2	2	10·59	1664·2	14·60	14·60	77·30	28·21	16·95	Karachi, 10½ months (left for Mooltan)	6
17th „ „	116	237	—	8	16·75	2043·1	—	68·96	144·40	52·70	25·80	Ahmednagar, 12 months	7
26th „ „	123	211	1	6	11·36	1715·4	8·13	48·78	92·36	33·71	19·65	Neemuch, 10 months	7
27th „ „	127	261	—	14	14·20	2055·1	—	110·24	111·81	40·81	19·86	Ahmedabad, 12 months	3
35th „ „	148	130	—	4	9·18	878·4	—	27·03	62·03	22·64	25·77	Kirkee, 12 months	2
36th „ „	134	241	1	8	13·54	1798·5	7·46	59·70	101·04	36·88	20·51	Hyderabad, 12 months	3

Corps.	Average Annual Strength.	Admitted into Hospital.	Died.	Invalids sent Home.	Average Number Constantly Sick.	Ratio per 1,000 of Strength.				Sick to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year.	Completed Years of Service in the Command.
						Admitted.	Died.	Invalided.	Constantly Sick.	Average Time			
										days.	days.		
ROYAL ARTILLERY—*cont.*													
42nd Field Artillery, R.A. -	107	153	3	5	7·78	1429·9	28·04	46·73	72·71	26·54	18·56	Nasirabad, 10 months (left for St. Thomas' Mount)	4
43th „ „ -	143	170	1	1	7·34	1188·8	6·99	6·99	51·33	18·73	15·76	Nasirabad, 1 month, and Neemuch, 11 months -	4
53rd „ „ -	141	172	—	13	12·40	1219·8	—	92·20	87·94	32·10	26·31	Kirkee, 12 months - - - - -	4
55th „ „ -	148	147	—	3	9·90	1028·0	—	20·98	69·23	25·27	24·58	Kirkee, 12 months - - - - -	2
72nd „ „ -	132	127	—	1	5·49	962·2	—	7·57	41·59	15·18	15·78	Deesa, 12 months - - - - -	2
3rd Southern Division, R.A.	98	155	—	6	9·32	1561·6	—	61·22	95·10	34·71	21·95	Colaba, 12 months - - - - -	9
5th „ „	103	98	1	3	5·47	951·4	9·71	29·13	53·11	19·38	20·37	Aden, 12 months - - - - -	3
11th „ „	111	150	1	1	9·24	1351·3	9·01	9·01	83·24	30·38	22·48	Colaba, 12 months - - - - -	1
18th „ „	108	121	1	—	10·14	1120·4	9·26	—	93·89	34·27	30·59	Karachi, 12 months - - - - -	1
13th Western Division, R.A.	86	146	—	3	7·08	1697·7	—	34·88	82·32	30·05	17·70	Mhow, 12 months - - - - -	11
15th „ „ -	107	165	1	5	7·07	1542·0	9·35	46·73	66·07	24·12	15·64	Aden, 12 months - - - - -	12
22nd „ „ -	109	149	—	1	7·49	1,367·0	—	9·17	68·71	25·08	18·35	Colaba, 12 months - - - - -	5
Total - -	2,603	3,601	14	96	206·59	1,383·4	5·38	36·88	79·37	28·97	20·94		
Royal Engineers - -	26	19	—	—	·22	730·8	—	—	8·46	3·09	4·23		

Corps.	Average Annual Strength.	Admitted into Hospital.	Died.	Invalids sent Home.	Average Number Constantly Sick.	Ratio per 1,000 of Strength.				Sick Time to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year.	Completed Years of Service in the Command.
						Admitted.	Died.	Invalided.	Constantly Sick.				
										days.	days.		
INFANTRY.													
2nd Bat. Royal Lanc. Regt.	907	1,393	7	24	71·22	1535·8	7·72	26·46	78·52	28·66	18·66	Karachi, 12 months	9
1st Royal Fusiliers	951	903	1	19	82·69	949·5	1·05	19·98	86·95	31·74	33·42	Poona, 12 months	3
2nd Leicestershire Regiment	470	684	3	7	23·55	1455·3	6·38	14·89	50·11	18·29	12·57	Aden, 10½ months (left for England)	14
2nd Lancashire Fusiliers	919	1,376	7	30	88·91	1497·3	7·62	32·64	96·75	35·31	23·58	Ahmednagar, 12 months	9
1st Worcestershire Regiment	750	1,087	7	9	75·82	1449·3	9·33	12·00	101·09	36·90	25·46	Poona, 9½ months (arrived from Quetta)	12
1st Loyal N. Lanc. Regiment	783	1,509	13	20	92·73	1915·7	16·60	25·54	118·39	43·23	22·56	Kamptee, 10½ months	6
2nd Gloucestershire Regiment	835	1,080	3	27	63·02	1293·4	3·59	32·33	75·47	27·55	21·30	Colaba, 12 months	10
2nd Middlesex Regiment	850	1,582	9	30	73·20	1861·2	10·59	35·29	86·12	31·43	16·89	Mhow, 10 months; Kamptee, 1 month	10
1st Connaught Rangers	81	213	—	—	8·69	2629·6	—	—	107·28	39·16	14·89	Aden, 1½ months (arrived from Dinapore)	—
2nd Royal Dublin Fusiliers	873	938	12	25	38·51	1074·4	13·74	28·64	44·11	16·10	14·98	Nasirabad, 12 months	5
2nd Durham Light Infantry	169	136	1	16	12·98	982·2	5·92	94·67	76·80	28·03	28·54	Poona, 2 months (left for Quetta)	4
Total	7,588	10,922	63	207	631·32	1439·4	8·30	27·28	83·20	30·31	21·10		
DEPÔTS, &c.													
Colaba Depôt	101	207	6	10	16·75	2049·5	59·40	99·01	165·84	60·53	29·53	Bombay	—
Deolalee Depôt	834	1,129	16	3	41·36	1353·6	19·18	3·60	40·59	18·10	13·37	Deolalee	—
Convalescents	75	184	1	—	8·22	2453·3	13·33	—	109·60	40·00	16·31	Mount Abu	—

Corps.	Average Annual Strength.	Admitted into Hospital.	Died.	Invalids sent Home.	Average Number Constantly Sick.	Ratio per 1,000 of Strength.				Sick Time to each Soldier.	Average Duration of each Case of Sickness.	Stations occupied during the Year.	Completed Years of Service in the Command.
						Admitted.	Died.	Invalided.	Constantly Sick.				
DEPÔTS—*cont.*										days.	days.		
Convalescents - -	122	22	1	15	14·20	1868·8	8·20	123·95	116·39	42·48	22·73	Purandhur - - - - - -	—
- -	86	137	—	—	5·77	1593·0	—	—	67·09	24·49	15·37	Khandalla - - - - - -	—
" - -	40	38	1	—	1·60	950·0	25·00	—	40·00	14·60	15·37	Taragarh - - - - - -	—
" - -	3	37	1	—	·74	12333·3	333·33	—	246·67	90·03	7·30	Ajmeergarh - - - - - -	—
Garrison Staff and Departments.	122	56	5	7	2·90	459·0	40·98	57·38	23·77	8·68	18·90		
Various Corps - -	222	215	3	16	15·85	968·5	13·52	72·07	71·40	26·06	26·91		
Troops on the March -	369	269	2	—	6·15	729·0	5·42	—	16·67	6·08	8·34		
Military Prison - -	69	37	—	—	4·33	536·2	—	—	62·75	22·90	42·72	Poona - - - - - - -	—
Rest Camp - - -	2	1	—	—	—	500·0	—	—	—	—	—	Khandwa - - - - - -	—
Total - - -	2,045	2,538	36	51	117·87	1241·1	17·60	24·94	57·64	21·04	16·95		
Grand Total - -	12,762	17,846	122	368	995·50	1398·4	9·56	32·83	78·00	28·47	20·36		

APPENDICES.

APPENDIX No. I.

REPORT ON THE PROGRESS OF HYGIENE FOR THE YEAR 1891.

By Brigade Surgeon-Lieut.-Colonel J. LANE NOTTER, M.A., M.D., Professor of Military Hygiene at the Army Medical School, Netley.

The year 1891 will be memorable by reason of the meeting in London of the Seventh International Medical Congress of Hygiene and Demography which was opened under the Presidency of H.R.H. the Prince of Wales on the 10th of August last.

The work done at the various sections which met during the four succeeding days was, both as regards the number of subjects brought forward and the quality of the papers read, fully equal to those of any previous meeting of the kind. The interest taken in the various papers under discussion as well as the hospitality shown to members, proves the decided advance that has been made in sanitary science during the last few years, not only in this country but abroad.

In England the education of the masses has resulted in the Legislature being able to pass enactments which a few years ago would have been impossible as likely to interfere with the personal liberty of the subject. This feeling has given place to a higher sense of responsibility by the State, and a willingness on the part of the public to submit to sanitary legislation, who now recognise such measures as being necessary for the common good.

The Congress was largely attended. Representatives from the various foreign Governments and from the leading societies in Great Britain and Ireland attended, so that the meeting was a thoroughly international one. The transactions have not as yet been published, but there is no doubt that they will shortly be in the hands of members.

I.—*Legislation.*

Although few Acts which bear directly upon the public health have been passed during the last Session of Parliament, one—Public Health Act, London, 1891—is a measure of more than ordinary importance, inasmuch as it is a decided advance on all previous measures of the kind. Under this Act the sanitary authority shall cause to be made from time to time an inspection of their district to ascertain the existence of nuisances and secure their abatement. Under the clauses relating to nuisances proceedings can be taken as to premises that are dangerous to health, without its being necessary as heretofore to prove the injury. An occupied house without a water supply is also declared to be a nuisance, and where a water company has lawfully cut off the water supply to any inhabited dwelling-house for the non-payment of water rates or other cause, the company shall give notice of the fact to the sanitary authority within 24 hours. The removal of house refuse is made compulsory on the sanitary authority, who is liable to a fine in default. It may be noted that under section 22 the removal of house and street refuse is deemed to be an offensive trade within the meaning of the Act. There are very stringent provisions as regards waterclosets, ashpits, &c., and for the disposal of unsound food. With regard to infectious diseases the London hospitals are no longer exempt from the duty of notification. A penalty is imposed on persons who knowing themselves to be suffering from a

dangerous infectious disease, engage in milking cows, picking fruit, &c. Sections of the Act are also devoted to smoke abatement, the cleanliness of workshops and bakehouses, and the regulation of dairies, and powers are provided for the dealing with exceptional epidemics. Medical officers of health can only be dismissed with the sanction of the Local Government Board. They must reside in or within a mile of their district.

The Act is more stringent than those which it has superseded, and in most of its provisions it is peremptory, and does not leave it optional with the sanitary authority to put it into force.

The Factory and Workshop Act deals with overcrowding, white washing, and other sanitary requirements; secures the proper provision against fire, and regulates the hours and conditions of employment in certain cases.

II.—*Literature.*

"The Causes and Prevention of Phthisis," by Arthur Ransome, M.D., F.R.S. Dr. Ransome's little book is well worth careful study. It is satisfactory to know that he believes a large proportion of people who suffer from phthisis recover. He considers damp ground a potent factor in the causation of the disease, and that the best result may often be obtained through drainage. He states that cold is also an important factor in the prevention of phthisis, and he remarks on the comparative immunity afforded by residence in cold climates. Dr. Ransome, as the result of his investigations, states that the most potent of all the causes predisposing to phthisis is bad ventilation and the breathing of impure air loaded with organic impurities. The disease is frequently spread by inhaling particles of dried sputa which float in the air; it is therefore recommended to disinfect all sputum by receiving it into vessels filled with sawdust which had previously been charged with some disinfectant, and their contents subsequently disposed of by being burnt in an ordinary fire. Mercuric chloride (1 in 500) is recommended as a useful disinfectant for this purpose.

"The Inspection of Meat," by W. Wylde, Chief Inspector of Meat for the City of London.

Mr. Wylde gives in a concise and simple form the knowledge he has gained from long practice as Inspector in the London Market. Unsound meat is classified under the following heads:—

(1.) Diseased meat. (2.) Meat from animals dying through accident (accidental). (3.) Putrid meat, tainted by weather or other causes. (4.) Physicked meat. (5.) Dysenteric meat. (6.) Fishy meat, appertaining to pork. The work is very well illustrated. The advantage of such a book is that the practical aspect of this important question is dealt with by one who is himself an expert, and has constantly given instruction to classes on this subject. It is a work which should prove useful to medical officers.

"Examination of Water for Sanitary and Technical Purposes," by H. Leffman, M.A., and W. Beam, M.A. 2nd edition.

The new edition of this excellent little manual contains a summary of recent investigations connected with the action of water on lead, a subject which has attracted much attention of late years on account of the large number affected by the use of water containing lead. The method for making a biological examination of potable water is given in detail. Some observations are also made on the purification of water. The work is clear and concise, and deals with the subject in a thoroughly practical manner.

"Diphtheria, its Natural History and Prevention," by R. Thorne Thorne, M.B., F.R.S.

Dr. Thorne Thorne reviews the various circumstances which have hitherto been observed in connexion with outbreaks of this disease. He remarks on the change of prevalence from country districts sparsely populated to towns and densely inhabited localities. The influence of season and of soil is discussed in detail and their effect on its distribution. The relation which epidemics bear to milk supplies and the observations of Dr. Klein, F.R.S., who associates this malady with a definite disease in cows, are considered in detail.

This work is a valuable contribution to our knowledge, and has thrown considerable light on a subject which has hitherto baffled most sanitarians.

"Bacteria and their Products," by G. Sims Woodhead, M.D.

This is an excellent summary of the present state of our knowledge on this subject. The two chapters of most interest for medical officers are perhaps those on tuberculosis and cholera. Dr. Woodhead is a thorough believer in Koch's views on these subjects, which are so well known as not to require further reference here.

"An Elementary Handbook of Potable Water," by Floyd Davis, M.Sc., Ph.D., Philadelphia.

This manual deals chiefly with the physical properties of water. It contains little that is not to be found in the ordinary text books on the subject, and is really of no practical use for medical officers.

"Examinations and Experimental Investigations by the State Board of Health of Massachusetts on the Water Supply and Inland Waters of Massachusetts, on the Purification of Sewage, and on the Intermittent Filtration of Water." 2 vols. 1890.

I am indebted to the Secretary of the State Board of Health of Massachusetts for a copy of these reports which he has kindly sent to me.

The first volume contains a description of the waterworks and generally of the sources of water supplies and rivers of the state, and gives the monthly chemical and biological examination of the waters.

The methods of analyses adopted are those usually practised in England, and are the same as taught in the laboratory of the Army Medical School at Netley. The results are stated in parts per 100,000, the plan adopted by the Royal Commission on the Pollution of Rivers, and which has been adhered to at Netley. It is desirable that a uniform method of stating results should be adopted by analysts, and this appears the one least open to objection.

A separate section by Dr. Thomas M. Brown, the chemist to the Board, is devoted to the examination of waters and the interpretation of the results arrived at by analyses. In determining the amount of free and albuminoid ammonia present in a sample of water, Dr. Brown directs attention to the importance of having uniformity of temperature of the solutions to be tested and the standard, as a deeper colour is always produced in the warmer solution.

In estimating the colour of a water a scale is used which is taken from the tint of Nesslerized ammonia, the comparison is made in ordinary Nessler glasses; the colour of 1 is that corresponding to the Nesslerization of 1 c.c. of the standard ammonium chloride solution; 0·1 is the colour produced by 0·1 c.c. of this solution. The advantages of this method are stated to be that the ammonia standards are always available in laboratories for water analyses, and the determinations have a definite value based on the amount of ammonia used.

The section on the interpretation of results is very interesting. The object in view throughout this chapter is to show that the interpretation should be based on the analysis as a whole and not on any single determination. Dr. Brown states with truth that a single determination in a chemical analysis of a water cannot tell what the real condition of a water is, and further, that one complete analysis tells us only what was the condition of the water when the sample was taken.

A Report on "The Organisms found in the Waters of the State" is given by Mr. G. H. Parker. This chapter deals with the relation of organisms and odours in natural waters; the organisms found in the water supplied to Boston, Charleston, and Cambridge; the seasonable distribution of organisms; the distribution of organisms in waters variously situated, and the purification of water rendered impure by organic growths.

Mr. Parker states that the only precaution necessary to prevent the growth of organisms is, in the case of pure ground supplies, to avoid the action of light. If water is not exposed to light the growth of algæ would be prevented, and it is thus impossible for animal life to thrive, for they are dependent on algæ for their food. In dealing, however, with surface waters, two objects must be accomplished; first the water must be freed from the organisms it contains, and secondly, it must be protected so that further growth is impossible. For the first, effective filtration is necessary, and he has found

that this can be accomplished by passing the water through a layer of fine sand six inches in thickness; if there is any subsequent growth it is probably due to the water having been passed through the filter too rapidly, the action being more or less incomplete. Once having freed the surface water from its organisms, its subsequent treatment is essentially the same as that for a ground water.

The general plan, then, for dealing with surface waters is to submit them to slow filtration and then to protect them from the further growth of organisms by excluding light. The importance of these observations will commend themselves to medical officers serving in such places as Gibraltar, where surface waters are the only available sources of supply.

The second volume is devoted to the consideration of the sewage question by Hiram F. Mills, M.A., C.E. This part of the report contains a large number of tables showing the composition and characters of the effluent after submitting sewage to precipitating agents and various other methods of treatment.

No summary, however, is given of the results obtained. Experiments were made at the Laurence Experimental Station upon the chemical precipitation of sewage, to determine the efficiency of different chemical precipitants. The conclusions arrived at were that where lime is used the amount must depend upon the composition of the sewage in order to obtain the best results. The quantity of lime which was found most effective was that that exactly sufficed to form normal carbonates with all the carbonic acid of the sewage.

In precipitation by ferric sulphate and crude alum the addition of lime was found unnecessary, as ordinary sewage contains enough alkali to decompose these salts. With ferrous sulphate this is not the case, as ordinary house sewage is not sufficiently alkaline, and lime must be added to obtain good results. Ferric sulphate gave the best results in these experiments, but ferrous sulphate and lime were nearly as good. No precipitant, however, gave results which made the effluent equal in organic purity with those obtained by intermittent filtration through sand. These results accord fairly well with those made in England by the Rivers Pollution Commissioners.

"Report on Cholera in Europe and India," by Edward O. Shakespear (of Philadelphia), M.A., M.D., Ph.D., United States Commissioner.

This Report is the result of a year's work spent in studying epidemics of cholera in Southern Europe and India. It contains numerous charts and statistical tables relating to this disease, and reference is made to all recent investigations on the subject.

The first chapter deals with the introduction of cholera in Egypt in 1883, and its subsequent appearance in Southern Europe, France, Germany, and England. His conclusions are especially important when considered in connexion with the discussion which has recently taken place at the International Sanitary Conference at Venice. Dr. Shakespear states "that these visitations "have without exception been traced back to India as their point of origin, "and that they have followed the course of trade, of travellers, or of armies "moving either by land or sea."

After once the disease is introduced into a locality the spread of cholera is "universally associated with contaminated water supply, filthy habits, and "bad personal and domestic hygiene."

The second chapter is devoted almost entirely to the consideration of cholera in India; the topography of the country is considered, and the endemic area mapped out, very similarly to the plan adopted by the Sanitary Commissioner with the Government of India.

Dr. Shakespear next considers the bacteriological nature of the disease and the literature connected with this subject. Dr. Koch's investigations are carefully recorded, and the objections which have been urged against them stated, especially those by Dr. Klein. The whole subject is treated in the most exhaustive and impartial manner, and it is in fact a complete history of the etiology of this disease up to the present time.

In the fourth chapter Dr. Shakespear gives the conclusions he has arrived at from a careful study of the evidence he has collected. They are as follows: —(1.) That the presence of Koch's comma bacillus in the vomit and dejecta of a patient is absolutely diagnostic of Asiatic cholera. (2.) That cultures of

the comma bacillus have a distinct pathogenic effect upon animals. (3.) That one attack of cholera produces an immunity from subsequent attacks. (4.) That there is a strong probability that inoculation into man of virulent cultures of the comma bacillus of Koch is capable of producing a certain immunity from an attack. (5.) He is strongly inclined to admit that the comma bacillus of Koch is to be regarded as the real specific cause of Asiatic cholera.

In the sixth chapter an account of Dr. Ferran's inoculation experiments is given very fully, and on the whole Dr. Shakespear appears to favour this method of prevention being adopted with a view to limiting the spread of an epidemic.

In the seventh chapter prevention is gone into in more detail. Quarantine is fully discussed, and this method is strongly advocated by Dr. Shakespear. He maintains that the attempts at the establishment of land quarantines, which were formerly insisted on in India, have been of much benefit in at least checking the onward spread of an epidemic.

As regards "individual measures of prevention," it is stated that anything that disturbs the digestive function increases the susceptibility of the individual to be attacked by the disease.

The fact that the normal acid juices of the stomach are capable of destroying the comma bacillus is noted. The danger of taking water when the secretion is neutral is pointed out, and it is therefore recommended during cholera epidemics, to avoid drinking water between meals. All water and milk should be thoroughly boiled before use.

This report is a valuable addition to the literature on this subject. It really embraces all that is known up to the present time regarding cholera. The subject is treated in the most impartial manner, and the conclusions arrived at by Dr. Shakspear are, on most points, the same as the majority of his readers, who carefully study this work, will come to.

"Manual of Practical Hygiene," by E. A. Parkes, M.D., F.R.S. 8th edition, 1891. Edited by J. Lane Notter, M.A., M.D.

The seventh edition of this work having been exhausted a new one was called for, and it is hoped this edition will prove as useful as former ones have done.

III.—*Work of Societies.*

The Seventh International Hygienic Congress was held in London in August last. The naval and military section, which met under the presidency of Lord Wantage, V.C., was well attended, and the numbers present at the discussion of the papers showed the interest taken in the work.

The first two days were set apart for papers on naval hygiene, and the last two days to the discussion of matters relating more particularly to military subjects. Abstracts of all the papers read appeared in the medical and sanitary journals, and the papers will appear in full in the transactions of the Congress which will shortly be published. It is hoped that the labours of this Congress will do much good and afford a further stimulus to sanitary work.

One advantage as regards the public services may be mentioned: such meetings bring together the medical officers of the Navy, Army, and Auxiliary Forces, and enable them to learn something of the work done outside their own special sphere of duty. It is seldom that an opportunity is afforded to officers of the several services to meet and discuss matters appertaining to medical, military, and naval life.

The amount of work done in the several sections was very large. It would be quite impossible to give any *resumé* of even the more important papers here; nor is it necessary to do so, as they will shortly be available for reference.

The annual meeting of the British Medical Association was held at Bournemouth. The Public Health Section was presided over by Dr. J. Burn Russell, and the address in public medicine was given by Dr. Edward Seaton, who chose for his subject "The Evolution of Local Sanitary Administration." He traced the rapid progress sanitary science has made in this

country during recent years, and with a view to limit the spread of infectious diseases he strongly advocated that isolation hospitals should be established in rural and sanitary districts and placed under the control of the county councils.

Dr. Parsons contributed an excellent paper on the influenza epidemic and its distribution through the British Isles, and showed how liable the disease is to be spread by infection. The exhibition which was held at the same time had some exhibits of sanitary appliances which were of interest.

Special Points of Hygiene.

Disinfection.—The subject of disinfection has of late years attracted a good deal of attention. This has arisen from our more intimate knowledge of the contagia that improved methods of bacteriology has brought about, and also from the results of Koch's experiments, which are really the groundwork on which the principle of modern disinfection is based.

Koch's paper on disinfection is to be found in the volume of the New Sydenham Society, 1886, "Microparasites in Disease," and a careful study of it will amply repay any labour this entails. Although some of Koch's conclusions do not quite agree with those of Gartner and Plagge, in the main they are fairly in accord with these observers.

It is well to have some definite meaning for the word disinfectant, which is often used to include antiseptics and deodorants. A disinfectant is an agent which not only prevents the decompositions which are causally connected with the presence of organisms but also destroys the organisms themselves and their spores. It is really a destructive agent, and the use of this term should be limited to agents capable of producing this effect.

All experimenters agree that the best test for a disinfectant is its power to destroy living micro-organisms and their spores. This is the only standard test now accepted.

It would be foreign to my purpose to enter here into all the processes or various chemical disinfectants advocated by various writers. My object is to refer to those best adapted for military purposes and which are within reach of military surgeons.

Dry heat is effectual if the temperature is raised sufficiently high (284° Fahr.), and the process is sufficiently prolonged to ensure total destruction of the contagia. The objections to dry heat as a disinfectant are (1) that fabrics are injured if they are submitted to any temperature above 230° Fahr.; (2) that it is next to impossible to guarantee a uniform heat throughout the chamber; (3) that dry heat does not penetrate bulky substances easily; (4) the length of time (3 hours at least) required for thorough disinfection.

These objections render dry heat inapplicable under most circumstances.

The general consensus of opinion is that steam heat is far superior to dry heat; spores of bacteria are killed much more readily and fabrics are not deteriorated to the same extent. Koch states that in "every respect exposure "to a current of steam at temperatures above 212° Fahr. is a far more satisfac- "tory method than dry heat. It is more certain, more simple, more rapid, more "economical, both in original cost and expense of working, and involves less "injury to the articles to be disinfected." It is important, however, that the steam should be saturated, and not a mixture of air and steam; and it is essential that there should be a current of steam, by which the air already existing in the articles to be disinfected may be displaced. In high-pressure apparatuses, therefore, the steam is allowed to "blow off" once or oftener during the process.

Carbolic acid and its compounds have been much employed for disinfecting purposes. The chief points to note are (1) that the solutions must be sufficiently strong in order to obtain good results, and (2) that these take a considerable time to act.

According to Koch, a 2 per cent. solution failed to destroy anthrax spores within a week; 3 per cent. took seven days, 4 per cent. three days, and even 8 per cent. required more than one week. On the other hand, Gartner and

Plagge found that a 3 per cent. solution killed micro-organisms within a very short time.

Any strength under 5 per cent. is unreliable and will not be effective within 24 hours.

Carbolic acid is well adapted for the disinfection of tubercular sputa, an equal quantity of a 5 per cent. solution destroying the micro-organism within 24 hours. Schill and Fischer state, as the result of their experiments on fresh tubercular sputum, that it is the most satisfactory disinfectant.

It may be noted that a 5 per cent. solution in oil or alcohol has no action on anthrax spores. Koch significantly adds:—"When it is sought to disinfect "dry objects, such as instruments, silk, catgut, &c., by means of carbolic oil, "there is absolutely no effect even upon the least resistant micro-organism, "beyond that due to the oil itself."

All observers agree that mercuric chloride is the most active bacterial poison; a solution of 1 in 1,000 destroyed anthrax spores within a few minutes. It is the only known disinfectant which, without any previous moistening or other preparation of the articles to be disinfected, destroys the most resistant organisms in a few minutes by a single application of a highly dilute solution (Koch). In the case of albuminous fluids, however, the sublimate may be precipitated, and thus enough of the salts of mercury will not be present in the solution to effect complete disinfection; for example, the addition of sublimate solution to tubercular sputum has been found to be quite insufficient for disinfection. To obviate this disadvantage Dr. Parsons has recommended the addition of an acid to the solution. He gives the following formula as applicable for general purposes:—Mercuric chloride, ½ ounce; hydrochloric acid 1 ounce; aniline blue, 5 grains; water, 3 gallons.

It is well to remember that mercuric chloride will corrode iron and other ordinary vessels, and is decomposed by contact with them; therefore it must be used in non-metallic vessels.

The sole drawback to mercuric chloride as a disinfectant is its poisonous properties, but in military hospitals there should be no difficulty in guarding against accidents from its use. If aniline blue is not available the solution may be coloured with permanganate of potash.

For the disinfection of clothing, bedding, &c., used by the sick, those articles which can be washed should be disinfected before washing. This is necessary to destroy the poison at once, as also to prevent permanent stains being left on the clothing by the coagulation of albuminous matters. The grosser dirt may be removed by soaking the articles in a solution of corrosive sublimate, which will not stain or rot the clothing. The articles may be subsequently boiled, if disinfection by steam heat is not available.

In all cases where it is desirable to use gaseous disinfectants chlorine is the best at our command, and is superior to sulphurous acid. It acts best when the air is saturated with moisture: this may be effected by wetting the walls, floor, &c., and by steam spray. As the gas is heavy, each vessel containing the chemicals for generating the gas should be placed in the upper part of the room, when the gas will readily find its way to the lower parts. Chlorine gas destroys all organisms, even the most resistant that lie upon the surface, but it has only slight power of penetration into crevices and fabrics (Koch).

The results of Koch and Wolffhügel's experiments with sulphurous acid have not been favourable to this agent as a disinfectant; it penetrates with difficulty into crevices in walls and into the deeper masses of clothing, and requires the pressure of moisture to have any effect. Dujardin has recently advocated the use of sulphurous acid, but "the experimental proofs brought forward by him are quite insufficient" (Flügge).

Dr. Sanarelli has very recently (*Giornali della Società Italiana á Igiene*, Nos. 11 and 12, 1891) given the results of a series of experiments he made, and these appear to confirm those of Koch's. He is of opinion that little reliance can be placed on sulphurous acid or even on chlorine as disinfecting agents, and concludes an able article on this subject by stating that it is to be deplored that a reliance upon their illusory efficacy should have retained them in use now as agents of thorough disinfection.

Among much that is doubtful as regards the efficacy of aërial disinfectants one fact is clearly brought out, that any attempt to disinfect by chemical

means the air of sick rooms is useless, as if they are present in sufficient quantity they render the air of the room irrespirable. Nor should the fact that the contagia of different diseases possess different properties be overlooked. The poison of typhus becomes inert when diluted with air, and does not spread to any distance, while recent evidence goes to prove that small-pox is capable of transmission and does not lose its virulence by free dilution with air, but retaining its power can infect those living in the neighbourhood.

Aërial disinfectants, while not fulfilling all the conditions required by bacteriologists, may act as destructive agents on some organisms which are much more easily subjugated than those which possess the greatest resisting powers to any disinfectant, such as anthrax spores. Practically we find that they have been of some benefit, and while not placing too great reliance on them in the present state of our knowledge, it would not be altogether wise to discontinue their use.

Diphtheria.—The prevalence of diphtheria in various parts of England and its increase during the last few years has given rise to careful investigation, to trace if possible the causes of this disease and the best means for its prevention. I have the reports of eight epidemics which were investigated by the medical officers of the Local Government Board, and these are particularly valuable, as the history of each outbreak was most accurately gone into and the details worked out in a thoroughly scientific manner. The nature and causes of these epidemics are briefly summarised in the following table:—

Year.	Place.	No. infected.	Deaths.	Investigator.	Cause.
1888	Tredegar - -	224	41	Mr. Spear.	Schools appear to have been instrumental in widely disseminating the germs of infection, and once disseminated the infection fastened itself upon localities where soil and air were polluted by sewage.
1888-89	Pontypridd -	44	13	Mr. Spear.	Associated with foul effluvia from unventilated and untrapped drains, situated close to windows and doors of houses.
1889	Berkhampstead -	40	?	Dr. Blaxall.	Infection probably imported. School life disseminated the infection; possibly associated with sewer air.
1889	Stalybridge -	Not stated.	33	Mr. Spear.	In a large number of cases infected houses were exposed by direct connexion with sewers to the entrance of drain and sewer air.
1889	Stamford - -	75	16	Dr. H. Airy.	Outbreak associated with importation of manure from London.
1889	Grays - -	Not stated.	13	Dr. H. Airy.	Associated with imperfect sewage arrangements, foul cesspits, a water-logged soil, and damp habitations.
1889	Barnstaple -	Not stated.	19	Dr. Low.	No certain cause assigned. Want of ventilation and dirty, unwholesome conditions may have induced fatal results.
1889	Brinkworth -	63	5	Dr. Low.	Cause uncertain. Diffusion of the disease due to conditions of school attendance.

In this country there has been a growing mass of evidence to show that damp and polluted air is a potent factor in the causation of this disease. Dr. Edgar Barnes believes diphtheria to be more prevalent on clay soils than on gravel, and Dr. Kelly found the mortality to be higher on retentive than on porous soils. The table given above clearly indicates a causal connexion between epidemics of diphtheria and polluted soil air. In six of the eight epidemics tabulated impure air, either from sewer gas or polluted soil, is noticed in connexion with their origin and spread. Dr. Buchanan has drawn attention to the fact that this disease, which formerly was most fatal in sparsely populated places, has during the last few years (since 1887) increased in urban districts, and is at present nearly as prevalent in the one as in the other.

Dr. Renon, who has written an able work on the etiology of this disease, enters very fully into the specific nature of diphtheria, and states that the diphtheritic microbe is developed in the soil, and is carried from thence into the atmosphere, from which it may be deposited and inhaled; the throat is where the disease first appears, because it is the first part exposed to germs coming from the air, but he denies that it is only the throat that is the part always first affected. If the mucous surfaces of the mouth or stomach are inflamed, the germs will sow themselves there and develop. He advocates the necessity of destroying by cauterization the false membranes formed, and treating all adjacent parts antiseptically. All expectoration should be received into vessels containing disinfecting solutions, &c.

In connexion with this subject, Dr. Löffler's conclusions are of importance. It will be remembered that it was Löffler who discovered the diphtheria bacillus, and his statements concerning it have been confirmed and amplified by further investigations. Outside the body he found that up to the fourteenth week colonies of bacilli could be developed from the dried fragments of diphtheritic membrane, and he was successful in preserving the bacilli for five months. It may also be noted that the bacilli are found in the mouths of those who have suffered from the disease for some time after convalescence is established. Löffler fixes the time when all chances from infection are removed at eight days after the complete disappearance of all the symptoms. He does not believe that the diphtheritic affections in animals and man are one and the same disease.

Foods.

In the French Army the normal daily ration in time of war is as follows:—

Bread	35·27 ozs.	Ration of bread.
or Biscuit-bread	33·51 „	
or Biscuit	25·92 „	
Meat	14·11 „	Ration of meat.
or Preserved meat	8·82 „	
or Salt pork	8·82 „	
Dried vegetables or rice	3·55 „	
Lard	1·06 „	
Salt	0·55 „	
Sugar	0·74 „	
Coffee (roasted)	0·55 „	

Of these, the dried vegetables, rice, salt, sugar, and coffee, form what is known as the ration of "petits vivres" to which troops are entitled from the day they leave their places of mobilisation for the front.

The nutritive value of this diet is as follows:—Proteids, 5·2558 ounces; fats, 2·8624 ounces; carbo-hydrates, 19·0906 ounces; salts, 1·3614 ounces.

The ration of brandy is 0·11 of a pint. It is only issued exceptionally by order of the Commander-in-Chief.

In the Austrian-Hungarian Army the following ordinary field ration has been adopted:—

Bread - - -	1 portion	30·8 ozs.
Rice *or* preserved vegetables	„	4·9 „
Preserved soup - -	„	1·3 „
Fresh beef - - -	„	10·6 „
Salt - - - -	„	1·0 „
Pepper or paprika - -	„	0·017 „
Lard or butter for cooking -	„	0·7 „
Coffee* - - -	„	0·42 „
Sugar - - -	„	0·46 „
Tobacco - - -	„	1·20 „
Rum *or* brandy, *or* - -	„	0·1 pint.
Wine - - -	„	0·63 „

The nutritive value of this diet is:—Proteids, 4·69 ounces; fats, 2·4349 ounces; carbo-hydrates, 17·6685 ounces; salts, 1·8023 ounces.

The reserve food supply carried by each man consists of:—

Biscuit - - -	1 portion	17·6 ozs.
Preserved meat - -	„	7·0 „
Preserved soup - -	„	1·3 „
Salt - - - -	2 portions	2·0 „
Tobacco - - -	„	2·4 „

The nutritive value is:—Proteids, 4·5716 ounces; fats, 1·4688 ounces; carbo-hydrates, 13·5684 ounces; salts, 1·6377 ounces.

The following is a list of the samples of water, foods, wines, &c., analysed and specially reported on to the War Office during the year:—

	No. of Samples.
Water - - - - - -	48
Wine, Port - - - - -	21
„ Claret - - - - -	1
Beer - - - - - -	1
Bread - - - - - -	1
Pain de Reserve - - - -	1
Flour - - - - - -	4
Milk - - - - - -	2
Chloroform - - - - -	1
Meat Extracts—	
Liebig - - - - -	1
Mutton - - - - -	1
Bovril Lozenges - - - -	1
Vigoral - - - - -	1
Masqueras powdered beef - - -	1
Soils - - - - - -	1
Sewage effluents - - - -	2
Total - - -	98

A table of analyses of samples of water sent to the laboratory at Netley is appended. The plan followed is the same as in former years.

Cultivation experiments have been continued with a hope that by accumulating facts we may possibly be able to arrive at some practical conclusion.

* Tea and rum may be substituted for the coffee.

In all 48 samples were examined. These are classified as follows:—

"Fit for use" - - - - - -	22
"Usable, but requiring filtration before use" - -	11
"Unfit on account of organic impurity and of excessive hardness and chlorides" - - - -	15
Total - - -	48

The following table gives the means of these analyses in parts per 100,000:—

Table of Drinking-Waters according to Purity.

No.	Class of Waters.	Chlorine.	Oxygen required for Organic Matter.	Ammonia.		Nitric Acid.	Hardness.	
				Free.	Albuminoid.		Total.	Fixed.
22	"Fit for use" - - - -	4·7591	0·0543	0·0045	0·0050	1·2832	17·8409	6·2955
11	"Usable, but requires filtration."	11·7455	0·0582	0·0066	0·0106	2·2679	13·0909	5·7727
15	"Unfit on account of organic impurity and of excessive hardness and chlorides."	21·7467	0·2275	0·0263	0·0257	2·2511	31·8667	21·0000

In the first group, "Fit for use," the chlorine and hardness are high, the cause being the large amount of salts present in the Isle of Wight and Shoeburyness waters.

In the second group, "Usable, but requiring filtration," the chlorine is in excess. This is due to the proximity of the wells and tanks, at the stations from which the samples were taken, to the sea.

No. of Sample.	Source.	Physical Characters.	Microscopic Characters of the Sediment.	Quantitative Analyses in parts per 100,000.							Remarks.
				Chlorine.	Oxygen required for Organic Matter.	Free Ammonia.	Albuminoid Ammonia.	Nitric Acid.	Hardness.		
									Total.	Fixed.	
1	Tolleshunt near Colchester.—Well 20 feet deep.	Clear and colourless; very small sediment; taste palatable; no smell; lustre good.	None - -	5·7000	0·0760	None	0·0142	4·3617	11·5	9·5	A suspicious water; should be carefully filtered before using.
2	Tolleshunt near Colchester.—Well 20 feet deep.	Slightly yellow, not turbid; very small sediment; fair lustre; taste palatable; no smell.	Mineral grit; cotton and linen fibres; spores; minute infusoria, epidermis of grass.	10·0000	0·1120	0·0142	0·0142	2·9941	30·0	15·5	Unfit for drinking.
3	Isle of Wight.—Golden Hill Fort. New well on Glacis, depth 75 feet.	Faintly bluish; slightly turbid; large sediment; dull lustre; taste palatable; no smell.	Mineral grit, and particles of sand.	49·0000	0·0800	None	0·0144	0·2917	40·0	37·5	Cannot be recommended for drinking purposes.
4	Colchester.—Tanks in Georges Casemates, North Weald.	Yellow; very turbid; large sediment; lustre vitreous; taste palatable; no smell.	Clay and mineral grit; cotton and linen fibre; bacteria in large numbers.	0·7000	0·5040	0·1136	0·0672	0·0499	6·0	6·0	Unfit for drinking.
5	Christchurch. — Tap in No. 7, married quarters.	Clear and colourless; large sediment; lustre good; taste palatable; no smell.	Mineral grit; epidermis of grass; deal fibre.	4·1000	0·0320	0·0136	0·0110	0·9117	6·5	5·5	Contains an excess of free ammonia. It should be carefully filtered before being used for drinking purposes.

No. of Sample.	Source.	Physical Characters.	Microscopic Characters of the Sediment.	Quantitative Analyses in parts per 00,000.							Remarks.
				Chlorine.	Oxygen required for Organic Matter.	Free Ammonia.	Albuminoid Ammonia.	Nitric Acid.	Hardness.		
									Total.	Fixed.	
6	Weedon. — From spring after filtration through gravel.	Clear and colourless; sediment small; lustre good; taste palatable; smell none.	Numerous large infusoria, including Actinophrys and Dileptus; some diatoms; particles of carbonate of lime; a little vegetable débris.	1·7000	0·0520	0·0189	0·0151	0·1728	13·5	6·5	Unfit for drinking.
7	Gravesend. — Coal House Battery. Well 45 feet deep.	Clear and colourless; small sediment; good lustre; taste palatable; no smell.	A small quantity of vegetable débris; a few small infusoria; fragment of deal fibre and bacteria.	4·8000	0·0280	0·0026	0·0097	7·0656	27·0	11·0	Should be filtered before drinking.
	Windsor Infantry Barracks. — Tap in officers' mess kitchen.	Clear and colourless; small sediment; lustre good; taste palatable; smell none.	None - -	0·1000	0·0320	None	0·0024	1·4588	20·0	6·0	Fit for drinking purposes.
9	Windsor Infantry Barracks.—Standpipe at back of officers' mess, sergeants' quarters.	Same as No. 8 -	Dyed woollen fibres; vegetable débris and a few small infusoria.	2·1000	0·0320	None	0·0024	1·4588	20·0	6·0	Same as No. 8.
10	Windsor Infantry Barracks. — Tap at sink H, staff sergeants' quarters.	Same as No. 8 -	Minute fragments of broken down vegetable matter.	2·1000	0·0320	None	0·0033	1·4405	20·0	6·0	Same as No. 8.

No. of Sample.	Source.	Physical Characters.	Microscopic Characters of the Sediment.	Quantitative Analyses in parts per 100,000.							Remarks.
				Chlorine.	Oxygen required for Organic Matter.	Free Ammonia.	Albuminoid Ammonia.	Nitric Acid.	Hardness.		
									Total.	Fixed.	
11	Windsor Infantry Barracks. — Tap at lower sink 1, married quarters.	Same as No. 8 -	Small quantity of vegetable débris.	2·1000	0·0360	None	0·0033	1·4952	20·5	6·5	Same as No. 8.
12	Windsor Infantry Barracks. — Tap in No. 1 cookhouse.	Same as No. 8 -	Fragment of vegetable débris; a piece of deal fibre and some small infusoria.	2·1000	0·0320	None	0·0052	1·4405	21·0	6·5	Same as No. 8.
13	Windsor Infantry Barracks.– Standpipe back of E. soldiers' quarters.	Same as No. 8 -	Sand and vegetable débris; a few infusoria, and some zoogloea growth.	2·1000	0·0360	None	0·0048	1·4223	21·0	6·5	Same as No. 8.
14	Windsor Infantry Barracks. — Hydrant near gymnasium.	Same as No. 8 -	Zoogloea growth, and a few infusoria.	2·1000	0·0400	None	0·0025	1·4588	21·0	6·0	Same as No. 8.
15	Templemore Barracks.— Artesian well on parade, depth 250 feet.	Clear and colourless; small sediment; lustre good; taste palatable; no smell.	Small quantity of mineral grit, and a few crystals of carbonate of lime.	11·8000	0·0280	None	0·0066	2·4336	45·0	15·0	Fit for drinking purposes.
16	Weedon. — From stream filtered through sand and powdered freshly burnt coke.	Whitish colour; very turbid, large sediment; no lustre; taste peculiar; smell peculiar.	Finely divided clay.	0·4000	1·0000	0·0184	0·0480	0·0495	23·0	16·5	Large excess of organic matter; filter used has not removed suspended matters; unfit for drinking purposes.

No. of Sample.	Source.	Physical Characters.	Microscopic Characters of the Sediment.	Quantitative Analyses in parts per 100,000.							Remarks.
				Chlorine.	Oxygen required for Organic Matter.	Free Ammonia.	Albuminoid Ammonia.	Nitric Acid.	Hardness. Total.	Hardness. Fixed.	
17	Gosport. — New Barracks, standing hydrant supplying officers' mess kitchen and officers' quarters.	Colour whitish; turbidity none; sediment small; lustre good; taste palatable; smell none.	Consists nearly entirely of ferric oxide.	7·7000	0·0240	0·0026	0·0024	0·4865	16·0	6·5	Fit for drinking purposes.
18	Gosport. — New Barracks, standing hydrant supplying sergeants' mess and mess kitchen.	Same as No. 17 -	Small quantity of ferric oxide.	7·7000	0·0240	0·0026	0·0024	0·4961	16·0	6·5	Fit for drinking purposes.
19	Richmond Park.— Near Roehampton Gate, well 13 feet deep.	Colour slightly yellow; no turbidity; sediment small; lustre fair; taste palatable; no smell.	Particles of sand only.	47·0000	0·1600	0·0052	0·0316	13·1102	120·0	95·0	Unfit for drinking purposes.
20	Weedon. — From stream before entering filter chamber.	Slightly yellow; not turbid; small sediment; good lustre; taste palatable; smell not peculiar.	Vegetable débris; a few diatoms, cotton fibres, and a little mineral grit.	1·6000	0·0600	None	0·0170	0·5908	16·0	6·0	Contains a slight excess of organic matter, probably of vegetable origin. If carefully filtered would be quite fit for drinking.
21	Dover Castle. — Tap, butler's pantry, Constable's Tower.	Clear and colourless; small sediment; good lustre; taste palatable; no smell.	A little sand and mineral grit.	4·1000	0·0280	None	0·0048	2·6258	14·0	4·0	Fit for drinking purposes.

No. of Sample.	Source.	Physical Characters.	Microscopic Characters of the Sediment.	Quantitative Analyses in parts per 100,000.							Remarks.
				Chlorine.	Oxygen required for Organic Matter.	Free Ammonia.	Albuminoid Ammonia.	Nitric Acid.	Hardness.		
									Total.	Fixed.	
22	Dover Castle. — C.R.A. quarters, Castle tap.	Same as No. 21 -	A little mineral grit.	4·1000	0·0280	None	0·0048	2·6258	14·0	4·0	Fit for drinking purposes.
23	Dover Castle. — Tap, Fort Burgoyne.	Same as No. 21 -	A little mineral grit.	4·1000	0·0280	None	0·0048	2·6258	14·0	4·0	Fit for drinking purposes.
24	Dover Castle.— From well.	Same as No. 21 -	Mineral matter, a little carbonate of lime, and a little débris.	4·1000	0·0280	None	0·0048	2·6258	14·0	4·0	Fit for drinking purposes.
25	Isle of Wight.— Well in Golden Hill Fort, 95 feet deep.	Clear and colourless; small sediment; lustre good; taste palatable; no smell.	Mineral grit, crystals of carbonate of lime; a dyed cotton and linen fibre.	12·8000	0·0400	None	0·0022	0·0554	27·5	7·5	Contains an excess of chlorine, probably due to percolation from the sea or the well reaching a salt-bearing stratum; it is fit for drinking.
26	Northampton Barracks.—Tap off main near canteen.	Slightly yellow; turbidity none; sediment small; lustre dull; taste palatable; smell none.	A little mineral grit.	3·6000	0·0880	None	0·0138	0·2772	9·0	3·5	Contains a slight excess of organic matter, probably of vegetable origin. Should be filtered before being used for drinking purposes.
27	Northampton Barracks. — No. 6, married soldiers, E block.	Slightly yellow; slightly turbid; sediment large; lustre dull; taste palatable: no smell.	Mineral grit; dyed wool; cotton fibre; particles of iron; surface impurities, *i.e.*, grass.	4·1000	0·0880	None	0·0173	0·2392	10·5	3·5	If from the same source as No. 26, it has taken up impurities in transit. The chlorine, albuminoid, ammonia, and microscopic examination show this; possible source of impurity should be looked for.

No. of Sample.	Source.	Physical Characters.	Microscopic Characters of the Sediment.	Quantitative Analyses in parts per 100,000.							Remarks.
				Chlorine.	Oxygen required for Organic Matter.	Free Ammonia.	Albuminoid Ammonia.	Nitric Acid.	Hardness.		
									Total.	Fixed.	
28	Naas Barracks.—From pump in front of married quarters.	Clear and colourless; small sediment; good lustre; taste palatable; no smell.	A little mineral grit and a few particles of carbonate of lime.	2·1000	0·0280	None	0·0075	3·9752	16·5	7·0	Recommended that water be filtered before using for drinking purposes.
29	Lydd. — From a spot marked "A" on 6-inch map, between Fox's Farm and Baulderwell Farm, after 5½ days' pumping, depth of well, 8 feet.	Clear and colourless; small sediment; good lustre; taste palatable; smell not peculiar.	Amorphous matter with a little mineral grit.	2·9000	0·0600	None	0·0078	0·1167	6·0	3·5	Fit for drinking.
30	Lydd. — From a spot marked "B" on 6-inch map, after five days' pumping by Norton's tube; well, depth 11 feet.	Clear and colourless; sediment very small; lustre good; taste palatable; smell not peculiar.	A little mineral grit.	2·6000	0·0320	None	0·0024	0·2286	5·0	4·5	Fit for drinking.
31	Lydd. — From a spot marked "C" on 6-inch map by Norton's tube. Well, after five days' pumping; depth 8 feet.	Yellow; very turbid; sediment very large; lustre dull; taste palatable: smell not peculiar.	Ferruginous particles; a little mineral grit and amorphous matter.	4·7000	0·2780	0·0896	0·0126	None	14·0	7·5	Fit for drinking.

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No. of Sample.	Source.	Physical Characters.	Microscopic Characters of the Sediment.	Quantitative Analyses in parts per 100,000.							Remarks.
				Chlorine.	Oxygen required for Organic Matter.	Free Ammonia.	Albuminoid Ammonia.	Nitric Acid.	Hardness. Total.	Hardness. Fixed.	
32	Isle of Wight.—Well at Steyne Wood, depth 96 feet.	Yellow; turbid; large sediment; no lustre; taste peculiar; smell peculiar.	Amorphous matter; débris in considerable quantity and bacteria in large numbers.	10·4000	0·3240	0·0947	0·0397	0·1374	None	None	A very impure water. It is unfit for drinking.
33	Harwich. — Well in Circular Redoubt, 35 feet deep.	Slightly yellow; slightly turbid; large sediment; lustre vitreous; taste palatable; no smell.	Ferruginous matter; sand with amorphous matter and bacteria in large numbers.	16·9000	0·0760	0·0087	0·0138	0·1801	38·0	15·5	Unfit for drinking purposes.
34	Gambia.—Well in Barrack Square about 5 feet diameter and 8 feet deep at Bathurst.	Slightly yellow; not turbid: sediment moderate; lustre dull; taste brackish; smell not peculiar.	Various infusoria; grass; cotton fibre; mineral grit; and vegetable débris.	130·0000	0·2240	0·0364	0·0139	1·3424	85·0	55·0	Very impure, and quite unfit for drinking purposes.
35	Gambia.—Well in Colonial Hospital about 4 feet diameter and 7 feet deep.	Yellow; turbid; large sediment; lustre dull; taste palatable; smell not peculiar.	Reddish brown containing iron-oxide, and consists chiefly of amorphous mineral matter, and a few infusoria.	38·0000	0·3800	None	0·0217	0·2027	32·5	10·0	Contains an excess of mineral constituents and is evidently contaminated by sea water; not safe for drinking, but, if no other supply available, should be boiled first.
36	Shoeburyness. — New artesian well, 422 feet deep.	Yellow: turbid; sediment large; lustre dull; taste palatable; no smell.	Finely divided mineral matter, chiefly aluminous with some small infusoria.	34·0000	0·1240	0·0284	0·0090	0·1772	2·5	None	If freed from suspended matter by careful filtration may be used for drinking purposes.

No. of Sample.	Source.	Physical Characters.	Microscopic Characters of the Sediment.	Quantitative Analyses in parts per 100,000.							Remarks.
				Chlorine.	Oxygen required for Organic Matter.	Free Ammonia.	Albuminoid Ammonia.	Nitric Acid.	Hardness.		
									Total.	Fixed.	
37	Colchester.—Rain water tank, C. E. F's. quarters.	Yellow; turbid; sediment large; lustre dull; taste unpleasant; smell unpleasant.	Vegetable débris; amorphous matter; various infusoria in large numbers with the exuviæ of crustaceæ; particles of soot, &c.	0·8000	0·3200	0·0681	0·0806	0·2308	5·5	5·0	Unfit for drinking; tank should be cleaned out.
38	Colchester.—Town water supply from tap over sink in scullery.	Clear and colourless; sediment very small; lustre good; taste palatable; smell none.	Amorphous matter; vegetable débris; epithelium of grass; a few minute infusoria; fibre of deal; woollen fibre (blue).	32·0000	0·0240	None	0·0023	1·6411	15·0	3·0	Recommended to be filtered before being used for drinking purposes.
39	Shoeburyness. — New artesian well, depth 432 feet.	Yellow; turbid; sediment large; lustre dull; taste palatable; no smell.	Sand; mineral grit; and finely divided clay.	34·0000	0·0520	0·0280	0·0066	0·1560	2·5	0·5	If freed from suspended matters by careful filtration may be used for drinking purposes.
40	Waterford Infantry Barracks.—No. 1 well, opposite women's washhouse.	Clear and colourless; sediment moderate; lustre good; taste palatable; no smell.	A few infusoria; vegetable débris; amorphous matter and sand.	8·6000	0·0280	0·0059	0·0050	5·8713	19·0	18·0	Should not be used for drinking purposes until well has been cleaned out and protected from impurities.
41	Waterford Infantry Barracks.—No. 2 well, at rear of officers' mess, depth 40 feet.	Clear and colourless; small sediment; good lustre; palatable taste; no smell.	Same as No. 40, with a dyed woollen fibre.	2·3000	0·0440	None	0·0048	3·5448	10·5	10·0	Unfit for drinking purposes; recommended that well be cleaned out, the water will probably then be fit for use.

No. of Sample.	Source.	Physical Characters.	Microscopic Characters of the Sediment.	Quantitative Analyses in parts per 100,000.							Remarks.
				Chlorine.	Oxygen required for Organic Matter.	Free Ammonia.	Albuminoid Ammonia.	Nitric Acid.	Hardness.		
									Total.	Fixed.	
42	Waterford Infantry Barracks.—No. 3 well, opposite Skittle Alley.	Clear and colourless; small sediment; good lustre; taste palatable; no smell.	A few infusoria; vegetable débris and amorphous matter; some much-worn fragments of deal and cotton fibre.	6·7000	0·0280	None	0·0048	3·3107	15·0	14·0	Same as No. 40.
43	Shoeburyness. — New well, 432 feet deep. Filtered through a spongy iron filter.	Clear and colourless; small sediment; good lustre, taste palatable; no smell.	A few particles of mineral grit, chiefly sand and iron.	30·0000	0·0560	0·0033	0·0060	0·1429	7·0	1·0	Fit for drinking purposes.
44	Templemore Barracks.—No. 2 well, near Hospital, south side of Barracks, depth 26 feet.	Clear and colourless; sediment very small; lustre good; taste palatable; no smell.	A little mineral grit; some vegetable débris; a few minute infusoria, and linen and cotton fibres.	3·2000	0·0400	None	0·0084	5·5512	27·0	14·0	Should be filtered before being used for drinking purposes.
45	Templemore Barracks.—No. 3 well, on Parade, West or Inner Square, depth 40 feet.	Same as No. 44 sample.	A few particles of mineral grit and crystals of carbonate of lime.	2·0000	0·0480	None	0·0079	1·0941	25·0	9·5	Fit for drinking purposes.
46	Templemore Barracks.—No. 4 well, on Parade, West or Inner Square, depth 24 feet.	Same as sample No. 44.	Mineral grit; several infusoria; cotton fibre; epidermis of grass; vegetable débris.	3·7000	0·0600	0·0148	0·0100	2·2775	40·0	10·5	Unfit for drinking purposes.

No. of Sample.	Source.	Physical Characters.	Microscopic Characters of the Sediment.	Quantitative Analyses in parts per 100,000.							Remarks.
				Chlorine.	Oxygen required for Organic Matter.	Free Ammonia.	Albuminoid Ammonia.	Nitric Acid.	Hardness.		
									Total.	Fixed.	
47	Ormskirk.—Town supply proposed to supply Burscough Ordnance Stores.	Clear and colourless; slight sediment; good lustre; taste palatable; smell not peculiar.	A little mineral grit.	2·8000	0·0240	None	0·0055	2·1590	11·5	7·5	Fit for drinking purposes.
48	York Barracks.—Used by the troops for drinking.	Slight yellow; not turbid; no sediment; good lustre; taste palatable; no smell.	—	1·4000	0·2280	None	0·0110	0·3369	20·0	10·0	Fit for drinking purposes.

In this year's report I am able to give the results of some experiments on "Morris's Circulating Filter. The filtering material employed is Doulton's *Manganous Carbon*. This consists of a mixture of animal charcoal and black oxide of manganese. The manganese dioxide is intended to act as an oxidiser.

The filter is of very simple construction. The essential feature is the employment of a fine-grained and of a coarse-grained powder of carbon or other filtering substance. The water having passed through the fine-grained portion is conducted into a compartment filled with larger grains; its flow is therefore hastened, and by means of a short tube opening directly from this into the external air, the carbon is kept aërated, and more or less dry. There are no joints or fittings, and the filter cannot get out of order. All the tests to which this filter was subjected were severe ones, and the results afford some useful information.

Table of Experiments made with the Morris Patent Circulating Filter.

Constituents.	Tap Water.		Albumen Solution. 0·5 c.c. fresh Albumen to 12 litres of pure distilled Water.		Gelatine Solution. 0·25 c.c. Gelatine dissolved in 12 litres of pure distilled Water.		Hay Solution in Distilled Water.		Sewage and Tap Water. 4 grammes of sewage in 12 litres of Tap Water.	
	Before Filtration.	After Filtration.	Before Filtration.	After Filtration.	Before Filtration.	After Filtration.	Before Filtration.	After Filtration.	Before Filtration.	After Filtration.
Ammonia, Free	0·0030	0·0116	0·0104	0·0026	None	None	0·0112	0·0052	0·0264	0·0026
„ Albuminoid	0·0168	0·0140	0·0960	0·0048	0·2080	0·0026	0·2000	0·0096	0·0744	0·0144
Oxygen required for total oxidisable matter	0·0920	0·0400	0·0760	0·0160	0·1640	0·0320	0·7000	0·0480	0·1760	0·0480
Oxygen required for organic matter only	0·0800	0·0320	0·0680	0·0120	0·1480	0·0240	0·6560	0·0320	0·1600	0·0400
Hardness, total	5·0000	12·5000	1·5000	15·5000	1·0000	11·5000	1·5000	11·5000	7·5000	12·5000
Chlorine	2·7000	1·9000	None	1·1000	None	0·3000	0·2900	0·3000	5·2000	5·3000

Per-centage.—Increase and Reduction.

Constituents.	Tap Water.	Albumen.	Gelatine.	Hay.	Sewage.
Ammonia, Free	+ 286·	− 75·	0·	− 53·	− 90·
„ Albuminoid	− 16·	− 95·	− 98·	− 95·	− 80·
Oxygen required for total oxidisable matter	− 56·	− 79·	− 80·	− 93·	− 72·
Oxygen required for organic matter only	− 60·	− 82·	− 83·	− 95·	− 75·
Hardness, total	+ 150·	+ 993·	+ 1050·	+ 666·	+ 66·
Chlorine	− 29·	+ ∞	+ ∞	+ 50·	+ 1·9

The above experiments accord with those made last year, and show that this filtering material has very considerable purifying power; that this is reasonably lasting; that it yields nothing to water which favours the growth of low forms of life; that in the construction of the filter there is nothing to add impurities to water; the filters are not liable to clog, and the delivery is reasonably rapid.

It is so constructed that any other material may be used in place of *manganous carbon*, gravel and sand, or coarse and fine charcoal, may be substituted if absolutely necessary.

These filters appear to answer all the requirements necessary for a field service filter.

Alcoholic Beverages.

During the year twenty-one samples of port wine were examined, with a view to ascertaining their fitness or otherwise for hospital purposes. It may be useful to note the average results of these analyses, as all the samples of wine were fairly good, although some were greatly superior to others. The present system seems to secure really good wine being issued to hospitals, a matter of no small importance in the treatment of sick.

AVERAGE RESULTS of Analysis of Twenty-one Samples of Port Wine, supplied for Hospital use.

Specific Gravity of Wine.	Specific Gravity of Distillate.	Specific Gravity of Extract.	Alcohol per Cent. Vol. in Vol.	Alcohol per Cent. under Proof.	Acidity in Grains per Ounce.			Sugar, Grape, and Fruit, in Grains per Ounce.	Total Solid Residue per Cent.	Ash per Cent.
					Total as Tartaric Acid.	Fixed as Tartaric Acid.	Volatile as Acetic Acid.			
1004·606	985·132	1029·036	20·101	64·697	2·0338	1·8306	0·1512	26·3014	7·5754	0·2105

Military Hospitals in Berlin.

The following notes were made at the time we visited Berlin to attend the meeting of the Tenth International Medical Congress which met there in 1890.

There are two garrison hospitals in Berlin, one, called "the first garrison hospital," situated in the centre of the town, and the other, "the second garrison hospital," at Tempelhof, about 3 or 4 miles to the south of the city. The former hospital was built in 1850–53 at a cost of 27,000*l*. It is built on the corridor system, and consists of a central building with two wings (north and south).

The number of beds allotted to this building is 457; each bed having from 13·92 to 37 cubic metres air space. The hospital contains, however, equipment for 600 sick, the additional accommodation being obtained by the employment of hospital huts, of which a large hut for 43 beds, and an Esse's wooden hut for 35 beds are pitched in the grounds of the hospital, while six tents and huts on the Doecker system are kept in the hospital, to be pitched as required for the accommodation of 79 sick. The wards in the main building contain 2 to 10 beds each. They are warmed by stoves, and ventilated by windows and by apertures in the lower panel of each door. Four wards are reserved for officers and subordinate officers. The hospital also contains an operating room, bacteriological laboratory, microscope room, dispensary, medical store room, and laboratory for the chief apothecary of the 3rd Army Corps and Guards Corps, five bath rooms, and a Turkish bath. The kitchen is fitted up with a steam-cooking apparatus. Connected with the wash-houses there is a disinfecting apparatus on Rietschel and Henneberg's system. A new store-room has been erected for the reserve of field dressing material. The water supply is from two deep wells, sunk in the grounds of the hospital. They are 90 metres deep,

and are the deepest wells in Berlin. The cases are treated in four divisions, medical division, surgical division, out-door patients, and a mixed division for ear, eye, syphilis (in a lock ward), and skin diseases. A certain proportion of the regiments in garrison in Berlin and the establishments of the several military schools, &c. are treated in the hospital. The establishment of the hospital, with the exception of the medical officer in charge, who has a separate house, and some of the civilian sick attendants, are quartered in the main building.

The average number of sick treated during each year in the first garrison hospital was close on 4,000, taking the average for the last five years; the average number of days each case was under treatment was 23.

The following table shows the number of infectious diseases treated in the hospital during the same periods. The diseases shown here as "infectious" are so regarded in Germany :—

Year.	Number of Cases.	Scarlet Fever.	Measles.	Roseola.	Diphtheria.	Enteric Fever.	Dysentery.	Pneumonia.	Tubercle of the Lung.	Granular Ophthalmia.
1884-85	262	12	20	42	30	21	8	108	40	1
1885-86	262	12	30	28	31	22	1	79	62	3
1886-87	174	8	5	31	28	3	—	58	37	4
1887-88	175	5	7	22	15	20	1	78	23	4
1888-89	202	6	19	22	2	15	2	76	44	16
1884-89	1,101	43	81	145	106	81	12	399	206	28

The "Second Garrison Hospital," situated at Tempelhof, is comparatively new, being built in 1875-78. Its buildings are partly on the corridor, partly on the pavilion system, and contain accommodation for 500 sick. The total cost of the hospital was 150,000*l.*, including cost of ground and foundation. Each bed is estimated to have cost from 105*l.* to 157*l.* The hospital contains altogether nine buildings for the accommodation of the patients. Four of these buildings are two-storied blocks connected with one another and with the administration building and kitchen and washhouse building by covered passages. These blocks are on the corridor system. Each has a long corridor facing the north, into which the doors of the wards open. The corridors are ventilated and lighted with numerous glass doors and windows. Two of the buildings are separate pavilions with two stories, and containing two large wards on each floor, opening on to a staircase landing, which is in the centre of the building. The pavilions face east and west. At the end of the north ward a smaller ward is partitioned off as a day room for convalescents. A similar room, divided into two, forms special wards at the end of the large south ward.

The remaining three buildings are called "Isolir Gebäude" (isolated buildings), and are used for the treatment of infectious diseases. They are one-storied buildings, with an arrangement of wards similar to those in the pavilions. They also face east and west, and at the south end of each is a day room opening out into a covered shed, under which bed-patients may be placed when thought desirable.

The cubic space allowed for each bed is somewhat under 500 feet (37 cubic metres). The distribution of beds is as follows :—Each of the "*blocks*" has accommodation for 65 sick, in wards of six beds each, and similar wards of three and two beds each. Each pavilion accommodates 74, in four large wards of 16 beds each, two wards of 3 and two of 2 beds each. Each "Isolir Gebäude" contains 37 beds, in two wards of 16 each, one of 2 and one of 3 beds. In the "blocks" there are officers' wards and prisoners' wards, and each block has a set of quarters for an assistant surgeon. In each of the

pavilions there are four rooms for hospital assistants and sick attendants, and in each "Isolir Gebäude" there are two such rooms. On each floor there are waterclosets, bath-rooms, and small "tea" kitchens.

The administration block is a three-storied building containing a room for the examination of sick, a general room for medical officers, a dispensary, rooms for nursing sisters, &c. There is also connected with it a waiting room into which a tramway line from the various barracks runs.

The kitchen and washhouse building contains a perfectly fitted-up kitchen, with steam-cooking apparatus for 600 sick, on the Becker system.

Besides the wash-house this building has a microscope room, store room for provisions, cellars, drying room, &c. It is surmounted by a clock tower containing the cisterns.

On one side of the hospital grounds there is a large three-storied building containing all the articles necessary for fitting up hospital trains. A building of similar size on the opposite side contains quarters for one "inspector" and twelve married civilian sick attendants. Each of these is allowed a bedroom, sitting-room, kitchen and cellar.

Amongst the other outbuildings are an official residence for the medical officers in charge of the hospital, an ice-house, mortuary, guard-room, and sheds for the tramway cars that conduct the sick from the barracks in Berlin to the hospital.

The method of sick transport is peculiar to Berlin, where the tramway system is so extensively developed. Rails are laid down from the nearest points of the Berlin Tramway Company's lines to the various barracks at one end and to the hospital at the other. Two tramway cars run daily between the barracks and hospital and back. The cars are specially fitted for the accommodation of sick, and contain from 16 to 20 sitting-down patients and four lying down on litters constructed with spring legs, and capable of being slung up under the roof when not in use. The tramway company supplies the horses and drivers for the cars. One hospital assistant and one civilian sick attendant are on duty on the cars. The fresh sick are handed over to them at the sick waiting room of the barracks, and on the return journey the men discharged from hospital. A third car is also kept at the hospital for cases of accidents, sudden illness, &c.

In winter, when the cars cannot run on account of snow, a covered sleigh, with accommodation for 20 sitting and two lying-down patients, is used.

The water supply of the hospital is obtained from two wells, sunk 23 metres deep beneath the engine house, and is pumped into the cisterns daily, and conducted from these to the various buildings in pipes. One hundred cubic metres of water are expended daily. The steam engine used for pumping up the water supplies the steam required for the cooking apparatus, washhouse and disinfecting apparatus. The disinfecting apparatus is capable of containing an entire bed. Articles which have been disinfected are kept in a separate room from those to be disinfected, according to Schimmel's system, which is the system adopted in the hospital.

The bath rooms are all fitted for hot, cold, and douche baths. The waterclosets can be heated in winter. There is also a Turkish bath in each "block."

The wards are heated by stoves placed in the centre of the wards. The stoves also act as ventilators. Air is conducted from outside by tubes running under the floor and entering the space between the stove and its "mantle," which has an opening into the ward on its upper surface.

The foul air passes up alongside the chimney of the stove and escapes by an aperture in the roof.

In addition, all the doors of the wards have ventilating apertures in the lower panels. In the "Isolir Gebäude" there is a second stove placed near the other stove, arranged to considerably increase the circulation of air in the wards. Experiments to test the ventilating system of the hospital showed that air is renewed in the wards of the "blocks" at the rate of 81 cubic metres per hour for each bed, and in the wards of the pavilions and "Isolir Gebäude" at the rate of over 100 cubic metres per hour.

The lighting of the hospital is by gas. Gas is also employed for boiling water, &c. in the "tea" kitchens attached to the wards.

The duties of the hospital are carried out by four senior medical officers, appointed for periods of six months or a year at a time from amongst the medical officers of regiments in garrison. One of these has the charge of each of the four divisions into which the hospital is divided. They are assisted by four resident assistant surgeons, who have a roster of duty amongst themselves. Two military apothecaries also reside in the hospital.

On an average the number of those in attendance on the sick is 36 hospital assistants, 11 military sick attendants, and four nursing sisters from the convent at Neisse. The other officials connected with the hospital are a chief inspector and three inspectors, 13 civilian sick attendants, four servants, one engineer, two stokers, a cook and assistant cook (females), three washerwomen, and three needlewomen.

The cook and assistant cook do the whole of the cooking, including the serving up of diets, cleaning, and general kitchen work. They are assisted by one orderly. The head cook gets about 2*l.* wage monthly, the assistant cook about 1*l.* 10*s.* They spoke in terms of the highest praise regarding the simplicity and comfort of the steam cooking apparatus.

Nothing could be more cheerful than the appearance of the wards. There is an abundant supply of light from large windows, and an air of comfort around the whole place. The beds are light iron cots with head rest and spring mattress. An iron rod is fixed to the head rail of the bed, with a hook at the end of it, on which a towel hangs. A bed head ticket, consisting of a small black board about one foot square, is also hooked on to the end of the rod. This bed head ticket contains the name of the regiment and battalion, number of the company, patient's name, date of admission, disease, diet, treatment and remarks, written on it with a white ink formed of gum arabic, chalk and water. The writing has the appearance of white oil paint, or enamel. It does not rub off, but can be readily washed off. The facts written on these boards are entered afterwards into a case book and other documents.

The number of sick treated each year on the average for the last six years was 3,637. The average mortality was 24, and the days under treatment 27. The number of cases of infectious disease corresponds very much to those of the first garrison hospital.

Barracks of the 3rd Regiment of Guards, Berlin.

The barrack buildings enclose a large square, which serves as a parade round. They are compact and well built, and are arranged on the corridor system, *i.e.*, all the rooms open on to corridors, running the whole length of the building. The rooms were small and did not appear to be well ventilated. The men sleep in cots arranged in double tiers on one side of the room. The only ventilation apertures appeared to be an aperture in the lower panel of the door opening on to the corridor, and the apertures of the windows. The allowance of air space for each man is not more than 16 cubic metres.

The latrines are outside the barrack buildings and not connected with them by a covered passage.

The water supply is from the Berlin Waterworks Company, which supplies the city with water from the River Spree in the neighbourhood of the barracks. The water if passed through filter beds of sand before being distributed throughout the city. Oberstabsarzt Sellerbeck informed me that the water supply of the regiment was formerly from wells in the parade ground, and that enteric fever was then very prevalent in the regiment, but no case had occurred since the wells had been closed and the Berlin Waterworks Company's water obtained. The buildings contain a number of hot and cold water and douche baths; and the men are paraded once a week, 20 at a time, for bathing purposes.

The store-room contains the complete field service, clothing, and equipment of the regiment, including the equipment for regimental stretcher bearers.

In the basement of the buildings are sergeant's messes, canteens, dining rooms and kitchens for each battalion of the regiment. These I visited at the dinner hour. The rations appeared excellent, well-cooked, and appetizing.

Each battalion has one kitchen, where the food for the whole battalion is cooked. The cooking apparatus is similar to that in the 2nd station hospital, and female cooks are employed. One female cook does the whole of the cooking for the battalion, receiving in addition to rations 3*l.* as wages monthly. She is assisted by six soldiers, two to look after the boilers, two to portion out the food, and two to wash up. Women are employed for peeling potatoes and similar work. There were seven women so employed at the time of my visit.

At one end of the barrack buildings there is a waiting room for men reporting sick, and in connexion with it there is another room in which slight cases of illness are detained or kept under observation until sent to hospital.

The waiting room contains a small dispensary, which is looked after by hospital assistants who are on duty at the barracks. Surgeons remain on duty in the barracks on a weekly roster. A "local statistics" book, as described in my Report on Hygiene, 1890, is kept up by the medical officers in each set of barracks.

Major Hahn's Field Kitchen.

Major Hahn's field kitchen has been in use in the Saxon Army Corps for some time, and has been put to severe tests during manœuvres, &c. The results have been so satisfactory, that much attention has been bestowed upon this arrangement of kitchen necessaries. It has only recently been laid before the Medical Department of the War Office in Berlin, and no decision has yet been arrived at regarding its adoption for field hospitals, &c.

The field kitchen consists of a most complete set of cooking utensils packed in a remarkably ingenious manner. Major Hahn claims that the kitchen will boil 125 litres of water in 30 minutes, and prepare the same amount of tea and coffee in 35 minutes, of vegetable soup in 45 minutes, and of soup from fresh meat in 1½ to 2 hours. 125 rations of beef steak, cutlets, roast beef, &c. can be cooked in 30 minutes.

It is unnecessary to enter into the details of the packing. The system is one of nesting various articles together, filling corners with the cases containing smaller articles, and using the stove plates and meat boards as sides for the package. The kitchen can be laid out by one man in 10 minutes and repacked just as rapidly.

APPENDIX No. II.

LIST OF OPERATIONS PERFORMED AT THE ROYAL VICTORIA HOSPITAL, NETLEY, DURING THE YEAR 1891, WITH SHORT ABSTRACTS OF THE MOST IMPORTANT CASES.

By Brigade Surgeon-Lieut.-Colonel C. H. Y. Godwin, Army Medical Staff, Professor of Military Surgery, A.M.S.

Operations.	Number of Cases.	Diseases.	Results.				Remarks.
			Completely successful.	Partially successful.	Failed.	Died.	
Head, Face, and Neck.							
Enucleation of eyeball.	1	Wound of cornea, right.	1	—	—	—	Blow from a stone, dislocating lens, tearing iris. Hæmorrhage into vitreous.
"	1	Gun-shot wound of globe of eye, left.	1	—	—	—	Accidental.
Fractured ends of the body wired by silver wire after drilling.	1	Fracture lower jaw, double.	1	—	—	—	Fracture through left ramus and right body.
Paracentesis -	1	Ulcer of cornea -	1	—	—	—	
Perforation of mastoid cells.	1	Suppuration of middle and internal ear.	—	1	—	—	Gave relief for the time. Subsequently trephined.
Removal of premaxillary centre of superior maxilla.	1	Secondary syphilis	1	—	—	—	
Trephining cranium	1	Abscess of cerebellum.	—	—	—	1	Abscess connected with disease of internal ear.
Thorax.							
Free incision -	1	Empyema - -	1	—	—	—	
Resection of rib -	1	Empyema - -	1	—	—	—	
Abdomen.							
Free incision, drainage.	2	Abscess of liver -	2	—	—	—	
Opened in loin -	2	Psoas abscess -	—	2	—	—	Gave great relief.
Opened below ant. sup. spine of ilium.	1	Lumbar abscess -	—	1	—	—	
Abdominal section	1	Obstruction of intestines.	—	—	1	—	Patient died 39 days after operation, wound having quite healed.

Operations.	Number of Cases.	Diseases.	Results.				Remarks.
			Completely successful.	Partially successful.	Failed.	Died.	
Upper Extremity.							
Wired by silver wire.	1	Ununited fracture of radius.	1	—	—	—	
Excision of head of bone.	1	Dislocation of metacarpal bone of thumb on trapezium.	1	—	—	—	Of long standing.
Amputation -	1	Stiff and useless finger, right hand.	1	—	—	—	Result of a gun accident.
Adhesions broken down.	1	False ankylosis of humerus.	—	1	—	—	Movement of arm greatly benefited.
Lower Extremity.							
Cavities scraped out.	3	Necrosis and caries of tibia, syphilitic.	3	—	—	—	
Knee forcibly straightened.	2	Fibrous ankylosis of knee joint.	—	2	—	—	
Ligature of superficial femoral artery.	1	Popliteal aneurism, right.	1	—	—	—	After failure of cure by compression.
Excision of head of femur.	1	Tubercle of head of femur.	—	1	—	—	Head was lying on dorsum ilii.
Genito-Urinary.							
Plastic operation of urethra.	1	Urinary fistula -	1	—	—	—	
Circumcision -	3	Phimosis - -	3	—	—	—	
„	1	Extensive warts -	1	—	—	—	
Castration - -	3	Tuberculous disease.	3	—	—	—	
Perineal section -	1	Abscess of connective tissue, behind prostate.	1	—	—	—	
„ -	1	Urinary fistula -	—	1	—	—	Under treatment.
Rectum.							
Sphincter divided and sinuses opened up.	5	Fistula in ano -	4	—	1*	—	* Advanced case of tuberculosis.
Dilatation of sphincter.	1	Ulceration of rectum.	1	—	—	—	
Arteries and Veins.							
Double ligature of spermatic vein.	1	Varicocele - -	1	—	—	—	
Lymph Glands.							
Excision - -	8	Hypertrophy and suppuration of glands.	8	—	—	—	
Total - -	51	Total -	39	9	2	1	

Fracture of lower jaw wired.

No. 1628, Private M——, 1st Yorkshire Regiment, aged 29, received a severe blow in the face from another man, which caused a double fracture of the lower maxilla; one fracture was situated on the right side of the symphysis, and the other was through the angle on the left side. So much difficulty was experienced in keeping the parts in apposition, that it seemed

desirable to fix the fractured ends of the body of the bone by wire. Chloroform having been administered the fractured ends of the body on the right side of the symphysis were laid bare, holes were then drilled through the bone, and a stout silver wire was passed and twisted up tight on the outer surface. This quite fixed the fragments, and a good union followed in both fractures. On the 11th May 1891 the wire was removed and the man left the hospital on the 28th May 1891.

Disease of internal ear. Trephining.

No. 1333, Private J. M——, 1st Welsh Regiment, aged 23, was invalided from Malta in April 1891, and arrived at Netley on 13th May, suffering from deafness, with perforation of the membrana tympani. His disease commenced in January with inflammation of the external meatus, and while on the voyage home, great swelling appeared over the mastoid process, and he suffered great pain in the right temple. On admission his aspect was that of great suffering, there was a profuse discharge of fœtid purulent matter from the meatus; behind the pinna of the ear and over the mastoid process there was a small ulcer through which a probe could be passed into carious bone. In consequence of the agony he suffered, on the 22nd June, after chloroform had been given, a small spoon was introduced, the cavity was well scraped out, and a quantity of curdy cheesy matter evacuated. The patient seemed relieved after this operation. On the 29th he appeared to be not so well, there was the knit brow and the look of pain depicted on his face which had been present before the operation, but absent after it; he had, also, a feeling of constriction across the lower part of the chest; he vomited last evening; temperatures were subnormal. On the 30th the drowsiness increased, he could only be roused by loud speaking, complained of vertical headache, superficial reflexes were sluggish, grasp of left hand weaker than that of right. On July 1st, as the symptoms appeared to be deepening, an operation to search for an abscess was undertaken; a semilunar incision was made over the posterior part of the right parietal eminence, the pericranium having been raised, a circular piece of bone was raised by the trephine, when the dura mater at once bulged forward; on this being divided the brain substance bulged with marked increase of pulsation. The brain was now explored in several directions, but no abscess was reached. He sank and died on 2nd July. At the post-mortem examination, both hemispheres were flattened, lateral ventricle distended with serum, swelling, and discolouration of the right petrous bone, internal ear completely disorganised, an abscess containing most fœtid pus was found in the right lobe of the cerebellum.

Empyema, free incision, and resection of rib.

No. 3001, Private T. G——, 2nd Battalion Lancashire Fusiliers, aged 26 years, of 2 years' service, was invalided from Bombay, and arrived at Netley on 22nd August 1891. He had left England for Bombay in H.M.S. "Crocodile" in December 1890. On the voyage he contracted pneumonia, and was sent into the Colaba Hospital on arrival, when he was found to have an empyema, he remained in hospital for some time and was then sent home again.

When under treatment at Colaba he was aspirated, and 36 ozs. of pus were withdrawn. On the 2nd February 1891, a piece of one of the right ribs was resected, when 80 ozs. of pus escaped. On admission into hospital at Netley he had an anxious expression of countenance, was thin, weak, and anæmic, and complained of sweating at night. On examination of the chest the left side moved better than the right. The right was somewhat sunken in between the axillary lines, there was a sinus in the seventh interspace discharging a little pus just anterior to the axillary line, the ribs appeared to be somewhat crowded together. There was an area of dulness which occupied the whole of the right axilla. It appeared evident that there was a cavity containing pus, and when the passage admitted a free discharge he improved, and his temperature became normal, but when any blocking occurred his temperature ran up and he became unwell. To remedy this state of things, on July 21st, chloroform having been given, the original wound was opened up, a piece of rib was resected, and a plate of newly formed bone, evidently a fresh formation since the first operation, was also removed. This seemed to have been the cause of the continual blocking up of the sinus. The case progressed most favourably after the operation, and the cavity healed up. The man left the hospital on 19th October 1891 quite well.

Empyema: free incision.

No. 2686, Private D. C——, 3rd Dragoon Guards, aged 24, of 4 years' service was invalided from Rawal Pindi on account of secondary syphilis; he arrived at Netley on 22nd April 1891. On the voyage home he was attacked with what appeared to have been pleuro-pneumonia of the left side; on admission at Netley he was seen to be sallow and emaciated, with sunken eyes and dry brownish tongue, pulse 132, respiration 32; his body was covered with syphilitic psoriasis, and with deeply pigmented scars of old ulcers. The whole of the left chest was dull to percussion, the breath sounds were absent, there was no œgophony, and all vocal resonance and fremitus were absent, the heart's apex beat in 4th right interspace in nipple line. There was some bulging of the left intercostal spaces, and the breathing was diaphragmatic. He was aspirated in the 7th interspace in the axillary line on April 24th when 30 ozs. of pus were withdrawn. Next day he was transferred to the surgical division. On 27th April, chloroform having been given, a grooved aspirator needle was introduced, and pus appearing, a bistoury was passed along the groove and a free incision made in the 7th interspace, some eight pints of a puriform fluid were discharged; upon introducing the finger, a hard, solid like body could be distinctly felt, but which, as the fluid escaped, could be felt by the finger to be enlarging, it proved to be lung, which came forward in a distinct manner; a large drainage tube was inserted, and the whole wound dressed with sal-alembroth wool. The cavity closed eventually, owing to the lung having been only compressed and not bound down by adhesions. On July 20th, the note says, the air entry into the left lung is heard now almost all over the left side where the empyema existed; the wound has completely healed up. He left the hospital on the 27th July apparently in good health.

Abscess of the liver, multiple, dysenteric.

No. 645, Private J. McN——, 2nd Battalion Essex Regiment, aged 26 years, was invalided from Cyprus in March, 1891 and arrived at Netley on the 6th April. It appeared that, when at Alexandria in 1886, he contracted dysentery. In November of 1890 he began to feel pain in the right side; he complained of shortness of breath with slight cough, which continued up to the date of his being invalided. On the voyage home he suffered again from dysentery. When admitted at Netley there was found to be a considerable enlargement of the lower part of the right side of the chest and right hypochondrium, and the intercostal spaces were very wide and slightly depressed. An aspirator needle was introduced on the 15th April in the sixth right space, a little external to the mammary line, which drew off 37 ozs. of pus. On 17th April, chloroform having been given, a grooved aspirator needle was introduced at the same spot, a bistoury was passed along this groove, and a free incision made into a large cavity in the liver containing 40 ozs. of pus. A large drainage tube was then introduced, and a covering of sal-alembroth wool applied. In the evening the discharge appeared to be bile stained. The temperature almost at once became subnormal in character, and the discharge for some considerable time was nothing but pure bile; the stools were white, yet he digested and assimilated his food. On May 14th the patient in a fit of coughing brought up some bile-tinged sputum, and expectorated four ounces of a golden brown mucous fluid with a few shreads of lymph in it; the taste was very bitter, and the matter appeared to be of the same character as was discharged from the wound. The enlargement of the left lobe of the liver which had been noticed for some time seemed to become more defined, and the skin over it became œdematous, and on July 2nd an abscess pointing in the epigastrium was opened, and a considerable amount of pus escaped. It appeared to be quite unconnected with the first abscess; both, however, healed up, and he left the hospital on the 31st August 1891 in fairly good health.

Intestinal obstruction. Abdominal section.

No. 2687, Private J. S——, 1st Battalion North Lancashire Regiment, aged 24, was admitted into hospital at Netley on 2nd November 1891, having been invalided from Kamptee. He states that he was in good health when he embarked for India on board H.M.S. "Euphrates" on the 2nd January 1891. During the voyage, when engaged in moving a heavy table, the ship rolled and caused him to be thrown violently forward. Almost immediately afterwards he felt a pain in the left iliac region, but never was actually admitted into hospital during the voyage, though he complained of constipation, and pains of a dull aching character; he never had any vomiting, nor did he pass blood by the bowel. After arrival at Kamptee he was admitted

into hospital on the 2nd April suffering from symptoms of acute obstruction of the bowels, with colicky pains and vomiting. There was a distinct localised tenderness in the left iliac region, where a swelling of a solid character could be felt. He remained under treatment until August, when he was invalided home. During the homeward voyage he continued to suffer from constipation and severe vomiting. On admission at Netley his bowels were found to be irregular, the appetite indifferent; he was often sick, and a distinct fulness of a somewhat firm character could be detected in the left iliac fossa and deep in the lumbar region; the decubitus was dorsal with the legs drawn up, the abdomen was tympanitic and walls rigid. His face was drawn and pinched, the pulse and skin normal; he declared himself to be continually in pain, and wished to die. On several occasions the pain became so severe that he became partially delirious, and finally threatened to make away with himself, and this he attempted to do by striking his head against the wall. His condition of pain seemed to increase, the bowels could only be got to act with great difficulty, the vomiting became of a decided stercoraceous character, no information could be gained from examination per rectum. His own strong wish was that some operation should be attempted; accordingly, on 26th November, an anæsthetic having been given, and the urine drawn off by means of a catheter, the skin of the abdomen having been thoroughly well scrubbed, an incision was made from the umbilicus towards the pubis slightly on the left of the medial line, through the tissues down to the peritoneum, which was then divided on a director.

Great difficulty was experienced in introducing the hand, which led one to suppose that there were adhesions; however, on reaching well over into the left lumbar region a distinct hard swelling was felt, but it was firmly fixed. Owing to the difficulties experienced in reaching it, it was thought prudent not to attempt more; the abdomen was then well washed out with water that had been boiled, the sides of the wound were then brought together by the continuous or uninterrupted suture through its tissues separately, thus peritoneum was first sewn to peritoneum, muscle to muscle, aponeurosis to aponeurosis, and, lastly, the skin to skin; a drainage tube was inserted at the lower angle of the wound; the wound was then covered with iodoform gauze moistened in sublimate lotion, and the whole covered up by layers of sal alembroth wool.

On the following day the drainage tube was removed. For some days after the operation he expressed himself as having been much relieved. The wound healed up readily enough, but the place where the drainage tube had been healed by granulation; his difficulties, however, soon recurred with incessant agonising pain, which necessitated the constant use of morphia. He gradually lost ground, and died on the 3rd January 1892, 38 days after the operation.

Post-mortem examination. Abdominal cavity contained a large quantity of a blood-stained serum. The omentum was much contracted, puckered, and contained a large quantity of solid growths. A broad band of adhesions stretched from the lesser curvature of the stomach to the head of the pancreas, also from the pyloric end of the stomach to the transverse colon. Spleen was firmly adherent to the stomach, the small intestines were contracted and empty; mesenteric glands were much enlarged, the colon and caput cæci to sigmoid flexure was irregularly distended and filled with scybalæ. There was a marked constriction in the transverse colon; the transverse colon and sigmoid flexure were firmly adherent to the abdominal walls by hardened dense tissue, and by a mass of new growth pressing upon the ureter and kidney. In fact all the organs of the abdomen were studded with masses of new growth.

Ununited fracture of radius, wired.

No. 235, Private G. P——, 1st Royal Irish Fusiliers, aged 31, when at Landour, N.W.P., 28th September 1890, fell and fractured both bones of his right forearm, the ulna united, but the radius did not, consequently the forearm was useless and led to the man being invalided from Meerut in February 1891. He arrived at Netley on the 22nd April, and on examination it was seen that the forearm was practically useless to him, the power of supination and pronation was slight, he could lift nothing with the hand, the forearm looked shortened and deformed; on closer examination, the ends of the radius were found to be riding on one another, and only united by fibrous material; the fracture was at the junction of the middle with the lower third. On July 25 an operation was undertaken with a view of wiring the ends of the

radius together, a long incision was made over the fractured ends of the bone, which were then cleared and forcibly turned out, and refreshed by the saw, a hole was then drilled through each end, and a stout silver wire passed through and twisted up tight. The wound healed readily, and the bone united firmly. On 24th September, in consequence of the ends of the wire causing some irritation in the scar, the man was again put under chloroform and the wire was removed. He left the hospital on the 3rd November with a good strong forearm.

Excision of base of 1st metacarpal bone.

No. 3537, Private M——, 18th Hussars, aged 25, on the 20th June 1890, slipped and fell on his right side with his hand under him, but he did not seek medical aid for some eight or nine days afterwards when he found that he could not use his hand. Upon examination it was found that the base of the first metacarpal bone was dislocated backwards upon the trapezium, he was placed under chloroform, but the dislocation could not be reduced, and this led to his being invalided home, and he arrived at Netley on the 1st May 1891. On admission it was seen that on the posterior surface of the thenar eminence there was a circular projection which corresponded with the base of the first metacarpal bone; the patient was able to flex and extend the phalanx, but the movements of adduction and abduction were not possible, yet the projection did not seem large enough to be the base of the metacarpal bone. There was a considerable amount of hyperœsthesia of the whole ball of the thumb, and the man looked nervous and frightened whenever any manipulation, however gentle, was attempted. Chloroform having been administered, extension was made, when the bone seemed to go back with a click and the swelling disappeared; the hand was bound up in cotton and bandaged, but upon being subsequently examined in the course of a few days the part had assumed its old appearance. The hand in this state being useless a further operation was undertaken, when, chloroform having been given, a straight incision was made over the part and the base of the metacarpal bone was excised; the wound healed very favourably, and he acquired a considerable use of the thumb. He left the hospital on the 28th December 1891 greatly benefited.

Excision of head of femur.

No. 2469, Private W. W——, 2nd Essex Regiment, aged 21, met with an accident in the early part of 1890 when jumping with a pole; he says that he struck his hip against the pole and came down with all his weight on the right foot; he continued at his duty for six weeks although his hip pained him, but was then obliged to lie up; he recovered sufficiently, however, to be sent in a draft to Cyprus, but continued to suffer pain and was invalided home after six months and arrived at Netley on the 6th April 1891. His condition on admission was that of a lad with a somewhat anxious expression of countenance; he was thin and sallow and had to be lifted whenever he required to be moved owing to the painful condition of the hip; an abscess gradually formed on the inner side of the thigh. On examining the hip it presents all the appearance of a dislocation on the dorsum ilii, shortening of the leg, some inversion of the foot, and, also, the head of the bone could be recognised. An abscess was also slowly forcing its way from the neighbourhood of the joint towards the inner and posterior part of the thigh.

On 22nd September an operation for the excision of the head of the bone was undertaken. Chloroform having been administered, a slight curved incision was made behind the trochanter in the long axis of the bone, the parts having been cleared, the head of the bone was forced out and sawn off, it was quite denuded of cartilage and the neck was very soft, a spot on the lower border of the acetabulum was eroded; this place was well scraped and drainage tubes were placed in the wound, the edges of which were drawn together by sutures. The abscess on the inner side of the thigh was opened and a large collection of pus let out, but no communication could be traced with the joint.

The leg was fixed by means of sand bags and a weight attached to the foot; the wound healed up gradually, but a discharge continued to come from it for some time.

His general health improved, and now at the close of the year the wound has entirely healed, though a sinus exists through which matter escapes whenever any new formation occurs. He continues under treatment.

No. 1036, Private D. C——, 1st Battalion King's Own Scottish Borderers, aged 31, six years' service, was invalided from Bombay on account of an injury to the testicle, and arrived at Netley on the 3rd March 1891. It appeared that in August 1890 he was kicked on the testicle, this was followed by abscess and subsequently by protrusion of the organ. On admission he was very thin and delicate looking, and the body of the testicle was quite external to the scrotum. On March 11th the testicle was removed in the usual manner, the wound soon healed up, and he left the hospital on 1st June 1891 fairly strong. Castration.

No. 1,385, Sergeant W. S——, 2nd Battalion Scottish Rifles, aged 24, 6½ years' service, was invalided from Lucknow, and arrived home at Netley on the 31st March 1891. His illness dates from April 1888, when he contracted gonorrhœa. He states that in April of that year he was ordered an injection of sulphate of zinc, by some mistake he used a strong solution of carbolic acid, which immediately caused great swelling of the penis, and retention of urine; great difficulty was experienced in passing a catheter, an abscess formed in the neighbourhood of the prostate and discharged itself per urethram. After a period of 75 days he regained power over his bladder and returned to duty. In December the discharge of pus commenced again, accompanied with pain on defœcation, and also with pain and tenderness in the perineum. Some three months afterwards the same symptoms again came on, preceded by a sense of fulness in the rectum; as soon as the discharge recommenced these symptoms of fulness and pain diminished. In November 1890 symptoms of stricture showed themselves, and for this he was invalided home. Prostatic abscess.

On admission into Netley Hospital he seemed a strong and well built man, but of a nervous temperament; he passed about 60 ounces of urine daily, light in colour, but containing neither albumen nor sugar, there was, however, a slight cloud of mucus. Micturition was frequent, the urine dribbled away and was not expelled with any force. He suffered from a constant pain in the perineum of a dull aching character, at times distinctly throbbing, this was much worse after micturition and also during defœcation. There was a muco-purulent discharge from the urethra at times, which was always increased after defœcation, a No. 8 bougie could be passed, but it seemed to pass through some cicatricial tissue before entering the bladder; no swelling could be detected in the perineum, but pain was produced by deep pressure. On examination per rectum, the anterior wall was felt to be bulging into the rectum, and seemed indurated and firm, but not very tender until a softer spot was reached higher up. It was considered to be a case of periprostatic abscess opening into the urethra, and which had burrowed in the tissues between the bladder and rectum. The man begged for relief. An operation was accordingly undertaken on the 23rd June to open up the abscess without making a wound in rectum or urethra. Ether having been administered, and the man placed in the lithotomy position, a grooved staff was passed into the bladder, and the forefinger into the rectum as a guide, a long straight bistoury was passed into the median line of the perineum to the apex of the prostate; in doing this the urethra was opened to a slight extent; on introducing the finger into the wound and working up between rectum and prostate an abscess cavity was discovered behind the prostate, which now had a free exit through the wound. From this date all his painful symptoms entirely disappeared, the wound was so dressed as to ensure it healing from the bottom; the wound in the urethra soon healed, and eventually the whole wound closed, and he left the hospital quite well on the 16th October 1891.

No. 465, Private J. T——, 2nd Battalion West Yorkshire Regiment, aged 26, seven years' service, was invalided from Dagshai, India, for perineal fistula, and he arrived at home at Netley on the 1st December 1890. He stated that he had had repeated attacks of gonorrhœa. In March 1890 an abscess formed in the perineum, which was opened and never closed up again. On admission into Netley an opening from the perineum into the urethra of quite one inch and a half long was seen, in fact the floor of the urethra in this situation was wanting, the roof of the urethra was visible as the mucous membrane could be distinguished from the skin. On February 17th, 1891, an operation was attempted for the relief of this condition. Ether having been given, and the man placed in the lithotomy position, a catheter was passed through the penile urethra, and then guided at the point by the finger, it was made to enter the Urinary fistula.

prostatic urethra; the skin was dissected back freely from the mucous membrane, which, in its turn was well freed from its lateral connections, the edges of the mucous membrane were now brought together over the catheter and fastened by sutures, then the skin flaps were brought together over these, and securely attached by their edges by means of sutures, then the whole wound was supported from strain on either side by a deep quilled suture, the catheter was left in the bladder; on February 21st the catheter managed to slip out during the night, and consequently some urine escaped through the wound, however the posterior half of the wound healed firmly, leaving a gap of half its original extent. On June 10th an exactly similar operation was repeated on the part still open, he now managed to take more care of the catheter, consequently the wound healed up entirely, and he left the hospital on the 26th October 1891 with a perfectly sound perineum and urethra.

Urinary fistula.

No. 432, Quartermaster Sergeant H. R——1st Battalion Leicester Regiment, aged 27, was invalided from Halifax, N.S., and arrived at Netley on the 29th September 1891. He gave the following account of himself. During the autumn of 1890, when in Bermuda he had an attack of enteric fever which considerably reduced him. On the 13th of February 1891 when straining at stool he felt something give way, and a smarting stinging sensation on the right side and dorsum of penis, the penis immediately became swollen, and subsequently also the scrotum; incisions were made into the œdematous tissue, and a catheter was passed into the bladder, sloughing followed, and urine escaped freely through the wounds at the side and root of the penis. On admission he appeared to be a well nourished man with rather an anxious and careworn look, of nervous temperament. On the dorsum and right side of the penis there was a contracted and puckered scar, on the right side of penis just at its junction with the scrotum there were several sinus openings, from one the probe led straight down to the symphysis pubis, but not behind it. A No. 7 catheter could be passed but not readily. On examination per rectum the parts seemed normal. A careful attempt to remedy this state of things was made by taking care to draw off the urine regularly and not to allow any of it to pass through the sinuses, but after a time as this quite failed to make any improvement an operation was undertaken on the 13th October to trace out the sinuses. Chloroform having been given, the sinuses were explored and divided up, but it was not until the penile urethra was injected that the communication with the urethra was discovered in the spongy portion of the urethra anterior to the bulb. The sinuses were all freely laid open, but they did not heal very readily, so on the 14th December a further operation was attempted with the intention of draining the bladder through an opening in the perineum, and thus preventing any possibility of urine finding its way into the sinuses. Accordingly an anæsthetic having been administered, a grooved staff was introduced into the bladder, and the man placed in the lithotomy position, when a straight bistoury was passed through the raphe straight down to the staff, and made to cut its way out towards the scrotum, then a blunt gorget was introduced into the wound and its beak made to enter the groove in the staff by which it was guided into the bladder, then the staff was withdrawn, and a large drainage tube was passed by the gorget into the bladder; since then the sinuses anterior to the scrotum have nearly all healed. He, however, still remains under treatment.

Popliteal aneurism; ligature of superficial femoral artery.

No. 914, Private P. C——, 2nd Battalion Connaught Rangers, aged 26, seven years' service, was invalided from Malta in July 1891, and arrived at Netley on 17th July. He contracted syphilis at Portsmouth in 1887. In May 1889 he was under treatment for rheumatism, and about three weeks after his discharge from hospital he noticed that his right leg was swollen in the calf, and he also noticed that the veins of the leg were very prominent, the leg was slightly painful to the touch and ached after any exertion, the swelling also increased after movement. In March 1891 he noticed a pain and stiffness in his right leg; this continued until about the middle of April, when the leg became much more swollen and painful. In June the leg became so painful that he had to go to hospital, where he remained until invalided in July. On admission at Netley he seemed to be a rather delicate looking man. Upon examining his right leg, a swelling in the popliteal space was noticed which gave a distinct impulse to the hand; it was diminished by pressure on the femoral artery; the circumference of the right knee was 15 inches, against that of the

left 13½ inches. The veins in the right calf were prominent and the leg was generally swollen, a distinct bruit was plainly audible in the aneurismal tumour.

On the 28th July a Signorini tourniquet was applied to the femoral artery over the pubic bone. He bore it as long as he could, and then the pressure was relaxed. This was continued off and on until the 5th August, when the aneurism was thought to be in much the same condition as at the commencement. It was, therefore, determined to tie the superficial femoral in the usual place, viz., in Scarpa's triangle. On 7th August, chloroform having been given, a straight incision was made over the artery, the sartorius was raised and turned out, the sheath of the vessel opened and the artery exposed; a needle was then passed under the artery, a piece of silk was next passed through the eye, and the needle was then withdrawn, and the ligature was tied. This at once stopped all pulsation in the aneurism. The wounds healed by first intention. On the 17th August the note describes the tumour as being a good deal smaller and harder. The foot has been warm and natural throughout. At 4 p.m. on the 24th the patient had a slight epileptic seizure, but it transpired that he had been subject to them. The tumour continued to become smaller and harder daily, and he left the hospital on 19th October 1891 in a good state of health.

Varicocele.

No. 577, Private A. S——, 2nd Battalion Royal Lancaster Regiment, aged 27, service nine years, was invalided from Ahmednugger, and arrived at Netley on 1st May 1891. In July 1890 he received an injury to the testicle by a kick from a man, which caused him to feel sick and faint; his left testicle became much swollen, and the scrotum was ecchymosed; the swelling gradually subsided, but not altogether, and some three months afterwards it was tapped, when blood of a tarry nature came away. It was tapped on several occasions, according to his own account, but the testicle always swelled after any exertion. On arrival at Netley he seemed to be a strong healthy man, his scrotum on the left side was much enlarged, but it was not pear-shaped, the superficial veins were large and distended; the tumour did not receive any impulse on coughing. On a closer examination the testicle and epididymis were much enlarged, there was some fluid in the tunica vaginalis, which seemed to be thickened; at the bottom of the scrotal sac a soft mass not painful could be felt; the cord was somewhat enlarged. Diagnosis. He probably had a varicocele, one vein of which was ruptured by the kick; a hæmatocele followed, but which has so far now cleared up as to permit us to feel the enlarged and varicose veins. On 26th June an operation was undertaken to cure the varicocele. Ether having been given and the part shaved, an incision was made from the spine of the pubis downward, and the cord exposed just as it emerges from the external ring; the veins having been separated, a double ligature was placed around them, and after these had been tied, the veins were cut across between them. The wound healed up readily by first intention, and the man left the hospital on the 18th July greatly benefited.

Anæsthetics.

For some time past the anæsthetic used in all operations has been ether, administered by a Clover's inhaler, which, as is well known, is a valuable and safe mode of administration; chloroform has been sparingly used, and only in cases where a mask over the face would have been inconvenient to the operator. During the latter part of the past year, however, an apparatus, termed the "Improved Anæsthetic Inhaler," of Messrs. Krohne and Sesemann, for the administration of chloroform, has been in use on every occasion. The mask preferred has been the face piece covered with flannel, and by this means the administration of chloroform has been rendered as easy and safe as is possible with so dangerous an agent. The free access of air ensures a certain dilution, and any inhalation of pure chloroform vapour is, I think, quite impossible, if only the most ordinary pains are taken to carry out the directions. The objections to the inhaler generally are the amount of india-rubber necessary, for both the bellows and tubing are made of this material, which, from the effects of climate or long disuse, is apt to become stiff and cracked, and therefore useless. This inhaler has been used on 24 occasions since the 4th August 1891 by Surgeon-Major Thomsett, M.S., who carried out the trials; the average quantity of chloroform used in each case has been three drachms, and the average time for getting the patients completely under the influence was thirteen minutes. This proves the economy of the inhaler, and though its

cost has to be taken into account, yet the consumption only of three drachms of chloroform in the case of soldiers, who undoubtedly take a good deal before succumbing to the influence, is in itself a positive gain. For military purposes the so-called "Hyderabad Chloroform Inhaler," or open-ended cone, made by the same firm, would probably be the best form of inhaler, as there is no india-rubber in its structure. A trial will be made of this particular inhaler, and a further report will be submitted on a future occasion.

APPENDIX No. III.

REPORT FROM THE MEDICAL DIVISION, ROYAL VICTORIA HOSPITAL, NETLEY, FOR 1891, WITH ABSTRACTS OF SOME CASES.

By Surgeon-Lieut.-Col. W. F. Stevenson, B.A., M.B., Army Medical Staff, Assistant Professor of Military Medicine.

The numbers of men discharged the Service, returned to duty, and died together with the causes of invaliding, are shown in the following tables:—

Table No. 1.

Total Treated.	Returned to Duty.	Discharged the Service.	Died.
1,850	1,068	671	18

Table No. 2.

Diseases.	Treated.	Discharged		Died.	Remaining on 31st December 1891.
		To Duty.	The Service.		
Tubercle of lung	153	23	111	10	9
Dysentery	57	26	28	—	3
Palpitation and all heart complaints, except valvular diseases of the heart.	173	5	155	—	13
Debility	498	333	139	—	27
Secondary syphilis	54	13	38	3	—
Simple continued fever, from Mediterranean and Hong Kong.	5	1	—	—	4
Valvular disease of heart	72	—	69	1	2
Induration and enlargement of spleen and splenitis.	12	9	3	—	—
Enlargement of liver and hepatitis.	31	12	16	—	3
Malarial cachexia	63	27	33	1	2
Delhi boil	1	—	1	—	—
Rheumatism	81	47	28	—	6
Ague	36	24	10	—	2
Abscess of liver	10	7	3	—	—
Hysteria	2	2	—	—	—
Other diseases	603	540	37	3	23
Total	1,850	1,068	671	18	93

Causes of invaliding.

The principal causes of discharge of men from the service on the medical side of the hospital are shown in the above table. Tubercle of the lungs, heart affections, and debility from climatic causes cover, as usual, the larger number. For valvular heart disease 72 men were treated, and 69 of these were discharged as "unfit"; one died and 2 remained in hospital at the end of the year. Of 172 men treated for palpitation and other cardiac diseases only 5 recovered sufficiently to be considered fit to rejoin their regiments. Tubercle of the lungs caused the largest mortality, being accountable for 10 out of 18 deaths.

Some short abstracts of cases of interest are appended.

Case of impaction of gall stones in gall bladder and ducts.

Private A——, Medical Staff Corps, aged 28, was admitted on 19th February 1891 for jaundice. Previous to that date he had been in good health; he had never been abroad. On admission the yellow staining of the skin and conjunctivæ was very evident, but there was nothing very remarkable about it. The patient stated that he felt no pain or uneasiness; the bowels were confined and the tongue furred. On 5th day of disease he complained greatly of thirst; the yellow tinge had much increased; the liver was a good deal enlarged, but not at all painful; temperature 100·2° F. On 7th day the liver was still further enlarged; no pain; bowels moved 9 times in 24 hours; tongue dry and brown. 8th day: temp. 104·2° F. on the previous evening; appearance "typhoid." 9th day: temp. 103·6° F. last evening. Said he felt much better; no pain; sordes on lips and teeth; pulse rapid and weak; bowels moved 8 times during 24 hours, the stools containing no bile; liver much enlarged. 10th day: temp. 104·8° F. last evening, and 101·0° F. at 3·30 a.m. No pain anywhere; liver somewhat tender on pressure and percussion. At 4 a.m. he coughed a good deal and expectorated some thin, clear mucus, and "nearly fainted." On some brandy being given he revived and perspired profusely. Extremities warm; tongue a little cleaner; said he felt better and would like some milk. At 5·30 a.m. he suddenly vomited some material like coffee grounds and fell back dead.

At the post-mortem examination the body was found well nourished, with a thick layer of subcutaneous fat, and good muscular development; a few ounces of yellow opaque, purulent fluid in the peritoneal cavity; surface of liver covered with a thin layer of green lymph; liver much enlarged; 5½ inches below ribs; weight 8 lbs. 12 ozs. Coils of small intestines showed patches of deep congestion. Lungs normal. 4 ozs. of yellow serum in pericardium; thick layer of fat over anterior surface of right ventricle of heart; heart muscle thickened and pale in colour; no clots. Gall bladder, cystic and common ducts much thickened and filled with yellow semi-solid matter of the consistency of clay, embedded in which were found 16 gall stones, two of which were the size of cobnuts. The gall stones, which were dark brown in colour, were formed principally of cholesterin and bile pigments. The surface of the liver was smooth and covered with lymph, as already mentioned. The upper portion of the right lobe was soft and pulpy, and on section almost all parts of the organ were seen to be in a condition to which no other word than gangrenous could be applied; wherever a section was made the surfaces exposed were found studded with small abscesses containing greenish pus of cheese-like consistency, and for the most part of about the size of a small walnut. The whole substance of the gland was soft and friable. The capsule was mottled with patches of yellowish green colour. As gangrene sometimes, though not often, takes place in a limb from complete obstruction to the venous return and the backward pressure of the blood, so it would appear that, in this case, gangrene of the liver occurred in consequence of the back working of the bile, the exit to which from the gland was found at the post-mortem to be absolutely prevented.

Case of aphasia.

Private A—— was admitted on July 29th with right hemiplegia and aphasia. His invaliding documents state that "in March 1891, while in "South Africa, he had an attack of enteric fever, on the 7th day of which he "became unconscious, and paralysis of the tongue, right side of face, and of "both right limbs supervened; swallowing was not interfered with. There was "total loss of sensation over the right side of the body and the sphincters were "paralysed. He remained in this condition for 20 days, when he gradually "became sensible, sensation was restored and he could protrude the tongue, but

" the right arm and leg remained paralysed. His intelligence returned, but he " could only pronounce the one word 'no.' He was greatly emaciated; the " symptoms of enteric fever were typical." On admission here he looked fat and well and his intelligence was above the average. He had always been a temperate man and there was no history or sign of syphilis. The right hemiplegia was almost complete; he could slightly move the leg but the arm was quite paralysed with the fingers flexed and contracted. Sensation was perfect. Both patellar reflexes were increased, the right to a very great extent; ankle clonus was marked on the right side and not obtainable on the left. No facial paralysis was apparent, but he could not whistle. He was quite unable to say any word except "no" and the sound "um," but he thoroughly understood everything said to him; he did not understand writing in all cases, but sometimes he evidently did; could not write to dictation, but copied correctly. He read books or newspapers all day, or appeared to do so. When a short sentence, as "put out your tongue," was written for him he laughed, shook his head, and said "um" or "no" and copied the writing, but evidently did not take in the meaning of the words. He was tried with several sentences of this kind, but did not understand any of them. On writing for him single words, such as "book," "table," "cup," &c., he nodded his head and pointed out the proper articles in the ward; but when the words were rubbed off the slate and the same articles shown to him he could not write down their names; for "book" he wrote "hain," rubbed it out immediately knowing it to be wrong, and wrote slowly and with evident effort to get it correctly, another series of letters which were as unmeaning as his first attempt; when he wrote incorrectly he immediately recognised that he had done so, and seemed puzzled and annoyed at his inability to do as he was told and as he wished. When "hand me a knife" was written for him he did nothing but say "um," nod his head, and commence to copy the writing; but when the word knife was written alone and I said "give" he immediately took up the knife and gave it to me. He could write his name well with his left hand. He knew that the number of his regiment was 94, but he could not write it on the slate. On being told to write the first letter of the alphabet he wrote "a"; for the second "A," "O," or "B"; told to write c he wrote "an." For "knife" he wrote "kinte" but knew it was incorrect; on being shown a bottle he wrote "hand," the last word he had written. He could do correctly sums in addition and put down the totals, and this although he could not from memory put down the figures that made the number of his regiment. It would therefore appear that this patient understood articulate language perfectly but written language hardly at all; that he could copy, but could not write from dictation; that he understood names of articles written for him, and that articulate language was quite impossible for him; for I am certain that the only word he could pronounce "no," was just as meaningless as the only other sound he could produce, "um," as both were used indiscriminately when he evidently wished his hearers to understand "yes." This patient remained in hospital until 3rd November; during his stay some improvement took place in his condition; on 14th September he read a short sentence and understood it; the hemiplegia lessened, especially as regards the leg, and he was able to be up and about with the aid of a stick; the paralysis of the arm improved to a slight extent, so that he could just move the fingers and forearm, but very slowly and with great effort; no change whatever occurred regarding his power of speech.

Case of in a man.

Colour-Sergeant P——, a married man, aged 32, of 12 years' service, was admitted on 21st October 1891, having been sent from the Guards' Hospital in London for change of air. The abstract of the case which came with him stated that "he had been admitted to hospital on May 20th complaining of " dyspnœa and pain referred to the throat and larynx. He was in a very " nervous state and much alarmed about himself. Previous to reporting " sick he had attended a specialist hospital for diseases of the throat: " examination there had revealed nothing organically amiss with the larynx." On admission here his nervous condition and alarm about himself still existed in a very marked degree. His faced was flushed, and his eyes were red and suffused from crying. He said he felt sure he would soon die of suffocation; that he could not breath on account of "the spasms" at his heart and throat, in both of which situations he "was in great pain." He was a

tall, well-developed, and well-made man, and appeared in perfect health. He was most anxious to continue in the service, and it was greatly to his interest to do so. His lung and heart sounds were normal in every respect, and his larynx on examination was healthy. Temperature normal; bowels constipated. He remained two months in hospital, during which his condition changed only occasionally in degree, on one day being a little better and on another a little worse. His bowels were made to act, but otherwise drugs had no good effect on him. He was then sent on two months' furlough, it having been carefully impressed upon him that his ills were altogether mental and imaginary and not depending on organic disease. He returned from furlough apparently free from all his difficulties and soon went back to his duty.

Case of Delhi boil.

Private J—, B—, aged 26. Service six years. Was admitted here on May 27, 1891, for Delhi boil. While in India his disease had been diagnosed as lupus, to which undoubtedly it bore a strong resemblance. Koch's tuberculin was used as a diagnostic, but no re-action either local or general followed. The man had no history of syphilis, nor had specific treatment any effect on the sore. The disease first made its appearance when the man was at Quetta in May 1889 as a small red spot on the side of the nose; in a fortnight it had increased and had the appearance of a pimple with a slight amount of inflammation around it. In March 1890 the man went to Poonah, and up to that time the sore had remained almost unchanged; it had the same appearance but had increased in size to a very slight extent. At Poonah it was poulticed for three days and then began to spread rapidly, reaching its present size in about three months. A greater amount of inflammation occurred and the sore ulcerated, a considerable quantity of purulent discharge taking place.

A similar sore appeared on the right wrist in August 1890 while at Poonah, which increased gradually to about the size of a shilling by December 1890; the surface ulcerated and there was a purulent discharge. This sore was treated with nitric acid in January 1891, and had healed by the end of May. On admission to Netley the resulting cicatrix was slightly indurated and of a purple colour but quite sound. The sore on the nose covered almost the whole of the left side of that organ and extended to a very slight extent over the bridge of the nose to the other side. The skin of this part was infiltrated and of a dusky red colour, raised above the surrounding healthy skin. The surface of the sore was shining and the epithelium much thinned over the most prominent part with two or three small points of complete ulceration, from which came little or no discharge. The demarcation between the sore and the sound skin was badly marked. In many situations over the sore, but especially over the left ala, were to be seen a number of small vesicles filled with a yellowish fluid, not pus. There was no enlargement of glands. To complete the clinical history of the case: while at Netley the sore showed no disposition to increase or to become worse in any way. Dry iodoform powder under cotton wool was found to be the best application for it, and with this treatment the sore slowly healed and the thickening and infiltration of the skin disappeared, leaving a cicatrix similar to that on the wrist. He left hospital on 5th October having completed his time of service.

Micro-organisms found in Delhi boil.

Small portions of the tissue in the case of Delhi boil were excised at the junction of the sore with the sound skin, hardened in absolute alcohol and cut into sections with a rocking microtome. These were stained with "Lœffler's blue," and showed under the microscope enormous numbers of micrococci aggregated into masses and evidently in the lymphatics. Attempts were made by Surgeon-Captain Bruce, Assistant Professor of Pathology at the Army Medical School, to grow these micro-organisms, which at first failed but eventually proved successful when small particles of the excised tissue were planted in sterile fluid serum from rabbit's blood. The pieces of tissue and the rabbit's serum were obtained under the strictest antiseptic precautions. The growth thus obtained was transferred to various cultivation media and its characteristics studied. Cover-glass preparations from the cultivation in bouillon showed well marked chains of cocci of about the same size as the streptococcus pyogenes. Grown in tubes of 10 per cent. gelatine, they did not liquify the gelatine, but after several days a growth was seen along the needle track composed of small white colonies, nothing appear-

Artificial culture.

ing on the surface. These tubes were kept at 22° C. Inoculated on the sloping surface of agar agar, and kept at 30° C. Colonies about the size of pins' heads were found after five days. Under a low power these colonies were seen to be of a faintly yellowish brown colour, very granular, and many of them had a darker spot in the centre. In shape the colonies were very irregular, with darker coloured, coarsely granular masses arranged around the circumference, making the edges irregular and serrated. In tubes of bouillon kept at 37° C.; at the end of 24 hours the fluid was turbid, with small flocculi floating in it, and with a slight white sediment at the bottom of the tubes. On potato these organisms grew slowly; after 10 days, at 37° C., small dry-looking colonies were seen as minute, yellowish, white projections.

Inoculation experiments.

Inoculations with the pure culture were made into dogs, guinea-pigs, rabbits and white rats, with the result of producing, especially in the ear of the rabbit, swellings as large as a bean, which in some cases ulcerated and destroyed the cartilage of the ear. These tumours being hardened in absolute alcohol and cut into sections showed, on staining with Loeffler's blue, a condition of things exactly similar to that seen in the sections from the original sore. The artificial disease set up in animals tended to spontaneous recovery after some considerable time, weeks or months. From these experiments we have, one may, I think, conclude, some reason to believe that this streptococcus bears a causal relation to the disease known as "Delhi boil"; and the practical deduction to be made from them is that excision of the ulcers, clear of the diseased structures, when possible and when seen at an early stage, is the proper treatment for the complaint; and that when the disease has further advanced, or when affecting situations where thorough eradication is impracticable, then sending the patients to England, where the disease tends to spontaneous recovery is strongly indicated.

Similarity of oriental sore to lupus.

Lewis and D. D. Cunningham "have no hesitation in suggesting that the "disease (oriental sore) as commonly observed at Delhi . . . is in no way "distinguishable from one or other of the various forms of lupus." (*Vide* Appendix to twelfth annual report of the Sanitary Commission with the Government of India, 1876.) These gentlemen further go on to say "that "oriental sore may be somewhat modified by climate, &c. from its European "prototype"; and again, they suggest a change of nomenclature, and that it may be called "Lupus endemicus." This seems to leave it to be inferred that they considered oriental sore and lupus to be the same disease; that lupus in Europe is called oriental sore elsewhere. But lupus is a tubercular disease, and tubercle bacilli are to be found in it; moreover, the local reaction to injection with tuberculin is very marked and peculiar in cases of lupus, whereas none takes place in cases of oriental sore. These two points of difference alone should, nowadays, render a diagnosis between the two diseases possible.

Cases treated with Koch's tuberculin.

A further trial of the treatment of tuberculous lung disease with tuberculin was made during the year, seven new cases undergoing it. No cases were so treated in which tubercle bacilli had not been found; the smallest doses only which produced any effect were used, and all the cases were in the initial stages of the complaint. Marked or permanent good effect was not observed in any of them. The opinion expressed by Professor Cayley and myself on the results in the first series of cases, treated last year by this method, was that they were distinctly good and hopeful. Our second series does not, I regret to say, bear out that statement. The cases were only such as Professor Koch considers most suitable for treatment by tuberculin, and the doses those he has recommended in his later communication on the subject; yet no improvement, other than that commonly seen to take place in similar cases treated by nursing, dieting, and older methods, could be observed. No relation between the numbers of bacilli in the sputum and the effects of tuberculin could be detected; in some cases after injection, they were increased and some diminished; but in all the subjective signs of a local effect on the tuberculous tissue were referred to by the patients. Some short notes of the condition of the patients at the termination of the treatment are given below.

No. 1. Had a hectic temperature and night sweats; cough and expectoration less; appetite good; moist sounds at left apex decreased, otherwise the physical signs were unchanged. Very weak; pain in right axillary line and at left nipple; general condition somewhat improved.

No. 2. Loss of weight=5 lbs. The physical signs (including moist sounds, which usually diminish) were unchanged; cough troublesome; sputum decreased; no night sweats; appetite and complexion good. Reaction very slight in this case; bacilli in very large numbers.

No. 3. Case in earliest stage, but bacilli in sputum; gain of weight=4 lbs. No moist sounds or dry crepitus; signs of consolidation unchanged; bacilli increased.

No. 4. Reaction to injection nearly always delayed 12 to 24 hours in this case. Lost 2 lbs. weight during the first month, then gained 4 lbs. on original weight. Cough and expectoration increased, "breath short"; no change in physical signs; bacilli could not be found; sputum thin and bronchitic.

No. 5. Reaction to dose considerable; pain occurred at all situations, giving physical signs; did not feel nearly so well at termination of treatment; had pain in larynx; lost 4 lbs. weight; cough and sputum increased; temperature hectic; no change in physical signs.

No. 6. Had very slight physical signs, but a few bacilli found. Reaction marked; sputum rusty on one occasion; lost 2 lbs. weight; bacilli in large numbers; refused further treatment after five injections.

No. 7. Was first injected for diagnostic purposes with reference to a tuberculous-looking sore on upper lip. Received ·002 grms. on June 10th and 15th. Only a slight increase of redness and fulness occurred in the lip. Temperature went up to 100·5° F. Headache, slight rigor, pain under right clavicle, cough, and expectoration were complained of on both occasions. The sputum was then stained and bacilli found. Lost 2 lbs. in weight. The physical signs (which, from the first, had been very slight) remained unchanged; no night sweats; no cough except on exertion; sputum very small in quantity; some pain under the right clavicle; one or two bacilli in each field. The sore on the lip remained almost unchanged.

These were the only cases so treated, and the patients were in hospital for some months, receiving the most nourishing and easily digested food, and every possible attention in the way of nursing. Under these circumstances the results of the special treatment can hardly be said to have been very promising.

Case of simple continued fever.

A case of simple continued fever of extraordinary length of duration, but peculiar in no other point, was treated in the division. Private B——, aged 22, was invalided from Hong Kong for valvular disease of the heart. The medical board here had passed him as unfit for further service, and he was to have left hospital on April 29th. Two days prior to this date he had a rigor, and complained of headache and pains in his muscles generally, and especially in the back. The temperature was taken and found to be 105° F., and it ranged between that and 100° F. for about three weeks. It then decreased to 99°–102° F., and remained at about this for some months, only on a few occasions touching the normal, and never, during this time, remaining at that point for 24 hours. He remained in hospital until November 30th, and up to 20th of that month the temperature was never normal for more than 36 hours, and that only on two or three occasions. On 20th November the temperature came down to normal and so remained. During this illness the man's subjective symptoms did not at all correspond with his febrile condition; his appetite was not bad; his tongue was clean; he slept fairly well, and on many occasions he said he was "all right," and was most anxious to be allowed to leave the hospital when his temperature was found to be somewhere between 99·0° F. and 105·0° F. His spleen was enlarged towards the end of the attack, but no reason for the continued high range of temperature could be found. The bowels were mostly constipated. Several exacerbations of the disease occurred during this seven months' attack of fever, some of them lasting as long as a week; the temperature for many weeks having ranged from 99·0° F. to 101·0° F. would suddenly and for no apparent cause, rise, and range from 102·0° F. to 105·0° F. At the end of it all he was not nearly as much emaciated as one would naturally expect, and when he went out he was putting on weight fairly rapidly.

APPENDIX No. IV.

ON THE ETIOLOGY OF MALTA FEVER.

By Surgeon-Captain DAVID BRUCE, Army Medical Staff, Assistant Professor of Pathology, Netley.

In accordance with instructions conveyed in War Office letter dated August 6th, 1891, I proceeded to Malta for the purpose of collecting material to carry out an investigation regarding the etiology of the local disease known as Malta Fever.

I left England on the 13th August 1891 and returned on the 21st September 1891.

During my three weeks' stay in Malta every facility was afforded me for the examination of cases under treatment in the various hospitals, through the kindness of Brigade Surgeon-Lieut.-Colonel O'Dwyer, M.S., Acting Principal Medical Officer.

The results of this inquiry I have the honour to embody in the following report.

In this report I do not intend to enter into the clinical features, or treatment of this fever, but to confine myself to the results of the bacteriological investigation of cases of the disease, which I hope will throw some light on its etiology, and help to establish the fact that here we have to do with no local variety of typhoid or malaria, but with a definite specific disease.

In working out the bacteriology of any disease it is necessary, in the first place, to establish the presence of same definite micro-organism in every case examined; secondly, to cultivate this organism in a pure state, on artificial media outside the body; and, thirdly, to transfer the disease to animals by the inoculation of these pure cultures.

PART I.

To establish the Presence of a definite Micro-organism in Cases of Malta Fever.

To detect the presence of micro-organisms in the bodies of those suffering from a given disease two methods may be employed.—(A.) The microscopical examination of blood during life and the tissues after death, and (B.) by the planting of small quantities of blood, or particles taken from the various organs, in artificial nutrient media, such as blood serum, nutrient gelatine, agar-agar, and other substances, when the micro-organisms, by their growth into colonies, demonstrate their presence.

In Malta Fever the first method is not readily applicable as the micro-organisms are not found in the blood, and being very minute are difficult to detect in cover-glass preparations or sections of the organs. On the other hand, the method of establishing their presence by means of artificial cultivations is easily carried out.

These cultivations are most successful when made from the spleen. This organ ought to be removed from the body as soon as possible after death,

protected from contamination by being wrapped in a cloth saturated with a solution of corrosive sublimate (1 in 1,000), and taken to the room set apart as a laboratory.

In transferring traces of the splenic pulp to tubes containing the nutrient material certain precautions should be taken. Three extensive cuts, the second in a plane at right angles to the first, and the third at right angles to the second and parallel to the first, are made by three knives previously thoroughly sterilized by heat. A platinum needle heated to redness before each inoculation is used to convey a small portion of the pulp from the depth of the third cut to the solid nutrient jelly. The test tubes containing the inoculated medium should then be placed in an incubator so as to keep them at the temperature of the blood. This, of course, necessitates the use of a nutrient medium, which remains solid at this temperature, and this is found in that commonly known as agar-agar.

I shall now proceed to give a list of the cases in which the presence of a definite micro-organism has been established by means of such cultivation experiments.

Case I. H. D——, aged 24. Duration of illness 12 days. Eight tubes of agar-agar nutrient jelly were inoculated from the spleen shortly after death, and remained at the ordinary temperature of the air (about 25° C.) until the following day at 11 a.m. Six of the tubes were then placed in an incubator kept at 37° C., while two were left at the ordinary temperature of the room.

Minute white colonies appeared on the surface of the agar-agar in the six tubes after a period of 84 hours, and in the two others at the end of 168 hours.

Case II. A. B——, aged 24 years. Duration of illness 15 days. As this case happened out of hospital I had no opportunity of making a post-mortem examination. I succeeded, however, in making inoculations into six tubes containing agar-agar in the following manner:—Seven hours after death, having previously cleansed the skin over the region of the spleen by means of a strong solution of corrosive sublimate and absolute alcohol, I drew off a small portion of the splenic pulp by means of a sterilized trochar and canula. Next morning five of these test tubes were placed in the incubator, and one left at the ordinary temperature of the air. No growth appeared in the tubes in the incubator until the end of 84 hours, when the same growth was observed as in Case I.

In the sixth tube, which had been left at the ordinary temperature, the colonies appeared at the end of 110 hours.

Case III. B. E——, aged 23 years. Duration of illness 8 days. Six tubes of agar-agar were inoculated from the spleen and placed in the incubator. In these tubes the characteristic growth appeared after 67 hours.

Case IV. J. C——, aged 22 years. Duration of illness 24 days. The six tubes inoculated from the spleen showed the usual growth after the usual time.

Case V. J. C——, aged 23 years. Duration of illness 53 days. Inoculations were made from the liver, kidneys, and spleen, but all remained perfectly sterile except one, in which the usual growth appeared after several days.

I can only account for this scarcity of the micro-organisms by supposing that most of them had died out owing to the long duration of the case.

Case VI. T. G——, aged 23 years. Duration of illness 8 days. This case resembled one of typhoid very closely. The stools throughout were fluid and yellow, the abdomen tympanitic, and the tongue dry and brown. The post-mortem examination showed the organs congested. The spleen weighed 19 oz. No enlargement or ulceration of Peyer's glands or other glands of the small intestines. Large intestine normal.

Six agar-agar tubes were inoculated from the spleen and showed the characteristic growth on the fourth day.

Case VII. L. G——, aged 22 years. Died after a few days' illness. The spleen was 22 oz. in weight. Five agar-agar tubes were inoculated and placed in the incubator. The characteristic growth appeared in all the tubes on the morning of the fourth day.

Case VIII. C. D——, aged 28 years. Died on the 8th day of illness. Body that of a strong muscular man. Mesenteric glands not enlarged. Large and small intestines showed no appearance of glandular enlargement or ulceration. The spleen weighed 19 oz. and was soft and pulpy. Six agar-agar tubes were

inoculated from this organ and placed in the incubator. After four days the characteristic growth appeared in all.

Case IX. M. K.——, aged 21 years. Duration of illness 34 days. Post-mortem appearances. Body much emaciated. Heart normal. Right lung adherent to the chest wall throughout, the adhesions evidently of long standing, substance of lung intensely congested, but no approach to consolidation. Left lung normal in appearance, except for some congestion at the base. Liver enlarged and congested. No trace of ulceration throughout whole length of the alimentary tract. Mesenteric glands normal. Spleen enormously enlarged and congested, weight 25 oz.

Although this seemed to be a typical case of Malta Fever none of the inoculations made into agar-agar tubes gave any result. Afterwards it was discovered that the nutrient medium used was excessively alkaline in reaction, which in my opinion accounted for the negative results.

The following two cases I owe to the kindness of Surgeon-Captain Hughes, M.S., at present stationed in Malta.

Case X. H. H——, aged 22 years. Duration of illness 72 days. On post-mortem examination the spleen was found to weigh 12 oz., was dark in colour, and somewhat firm in consistence. In the small intestines Peyer's patches and the solitary glands were normal, no ulceration was found in any part, and the mesenteric glands were not enlarged. Inoculations made into agar-agar tubes and kept at the temperature of the blood showed the usual growth on the fifth day.

Case XI. G. S——, aged 24 years. Duration of illness 8 days. Post-mortem examination. Lungs congested at bases behind. Liver weighed 88 oz., enlarged and congested. Intestines normal throughout. Spleen weighed 13 oz., intensely congested. Cultivations from the spleen made into agar-agar gave the characteristic growth.

To these eleven cases may be added two examined by Surgeon Gipps, R.N.,* in both of which the same micro-organism, shortly to be described, was demonstrated.

From the 13 foregoing fatal cases of this disease it will be seen that in 12 one and the same species of micro-organism was found.

I further made the attempt while in Malta during the autumn of 1891 to grow the micro-organism from the tissues of the living subject. Eight attempts in all were made, and of these two were successful, but some of the failures were probably due to the use of an excessively alkaline nutrient medium in which the micro-organism would not grow.

From the foregoing considerations I think the constant occurrence in this disease of a particular micro-organism can be held as proved.

In regard to its non-occurrence in other diseases I may mention that while in Malta I made inoculation experiments from several fatal cases of typhoid fever, and in each case cultivated a bacillus corresponding in size and manner of growth to the one described by Eberth and Gaffky. In these test tubes a copious growth appeared on the agar-agar at the end of 24 hours, being in marked contrast to the extremely slow growth of the micrococcus of Malta Fever. In the same way dysentery, tuberculosis, pneumonia, and in fact every fatal case that occurred, was made into a control experiment, but in no instance was there at any time cultivated a microbe bearing the most distant resemblance to that found in the disease under consideration.

PART II.

Morphology and Cultural Characters of the Micrococcus of Malta Fever.

The micrococcus of Malta Fever is round or slightly oval in form, and measures in dried preparations about ·33μ in diameter. It is, therefore, a very minute organism, and requires a magnifying power of 1,000 or 1,500 diameters

* Transactions of the Epidemiological Society of London, Vol. IX., p. 76.

to see it with any distinctness. Viewed in a drop of water, unstained, the microbes are seen as bright points in active molecular movement, the great majority of them single, a few in pairs, but never in chains. Like the majority of micrococci, they possess no power of spontaneous movement.

They can be readily stained in a watery solution of gentian violet, but Gram's method is not applicable, as they become discolourised in the process.

When planted in nutrient peptonized broth and kept at 37° C. no change can be seen for the first few days, but after some time the fluid becomes decidedly cloudy, without any formation of pellicle on the surface.

The best medium for the cultivation of this species is ordinary 1½ per cent. peptonised agar-agar beef jelly.

The inoculation into the agar-agar tubes may be made either as a stab culture, or by spreading the material over the surface of the agar-agar, which has been solidified in a sloping position so as to give a large surface. In the stab cultivations made from the spleen of a fatal case or from a previous culture no change takes place in the appearance of the jelly for several days. At length the growth appears as minute pearly-white spots scattered round the point of puncture, and minute round white colonies are also seen along the course of the needle track.

After some weeks the colonies on the surface grow larger and join to form a rosette-shaped colony, while the needle track becomes strongly marked, solid looking, and yellowish-brown in colour, with serrated edges.

After the lapse of some months the growth remains restricted in area, and its colour deepens to buff. When growing on the sloping surface of agar-agar and examined by transmitted light the appearance of the colonies is somewhat different. At the end of nine or ten days, if kept at 37° C., some of the colonies are as large as No. 4 shot. They are round in shape with an even contour, slightly raised above the surface of the agar-agar, and smooth and shining in appearance.

On holding up the tube and examining such colonies by transmitted light the centre of each is seen to be yellowish in colour, while the periphery appears bluish-white. On looking at the same colonies by reflected light no appearance of yellow can be seen, they then simply appear to be milky-white in colour. The separate colonies on the surface of the agar-agar do not extend indefinitely, and after a couple of months are found to be no larger than hemp seeds.

The time which elapses before the colonies of this micrococcus can be seen is fairly constant. Kept at a temperature of 25° C. this period may be stated to be seven days, at 37° C. about half that time.

When stab cultivations are made into 10 per cent. nutrient gelatine, and kept at 22° C., little or no growth takes place; after a month the needle track has become slightly developed, and on the surface can sometimes be seen a minute smooth white growth not larger than a pin's head. No liquifaction of the gelatine takes place.

I have not succeeded in making plate cultivations of this species on account of the extreme slowness of its growth at the temperature this medium remains solid.

Planted on boiled potato, and kept at blood temperature, no apparent growth takes place.

Part III.

On the Transmission of Malta Fever to Animals.

The effect of the inoculation of pure cultures of the micrococcus of Malta Fever was first tried on mice, guinea-pigs, and rabbits, but with altogether negative results. With monkeys, however, the results were more successful, as the following experiments will show:—

Experiment. Monkey No. 1, male, sp. Bonnet. The temperature of this monkey for a fortnight before inoculation ranged between 99° and 100° F. He ate well, was very active, and to all appearance healthy.

The material used for inoculation was a portion of a colony removed from an agar-agar tube by a platinum needle, and rubbed up with a small quantity of sterilized distilled water. This was injected under the skin of the monkey's left forearm by means of a sterilized hypodermic syringe.

The tube from which the material was taken was a cultivation from Case I., and had been growing outside the body for nearly a month.

The monkey's temperature went rapidly up, reaching 107° F., and after a severe illness, which lasted 21 days, he died.

On post-mortem examination the lungs showed no signs of tuberculosis, the liver was congested, the spleen enormously enlarged, and the mucous membrane of the intestines free from ulceration.

Six tubes of agar-agar nutrient jelly were inoculated from the spleen, and two from the liver. In all the spleen and in one of the liver tubes the growth characteristic of the micrococcus of Malta Fever appeared after the usual time. In the second liver tube no growth of any kind took place.

Experiment. Monkey No. 2, male, sp. unknown. Inoculated in the same manner as in the last experiment with material obtained from the living subject.

This monkey remained to all appearances in good health. His temperature, however, ran up to 104° F., at which it remained with slight variations for 16 days.

Some slight inflammation and pus formation occurred at the point of injection, but this passed off and the monkey recovered his usual health.

Experiment. Monkey No. 3, male, sp. Bonnet. In this case the same material was used for inoculation as in the last experiment.

The growth used was one from the surface of an agar-agar tube of the second generation, which had been growing for one month. This was mixed in the usual way in sterilized broth, and injected into the left forearm. This monkey's temperature also ran high, and he died after 13 days' illness.

Inoculations made from the spleen into agar-agar tubes showed the first appearance of the micrococcus of Malta Fever after four days.

Again I am indebted to Surgeon-Captain Hughes, Malta, for notes of the following experiment:—

Experiment. Monkey No. 4, male, sp. Bonnet. This monkey was under observation for two months, during which time his appetite was good and his temperature normal.

He was inoculated by injecting 1 ccm. of sterilized broth in which had been rubbed up a small quantity of growth from an agar-agar tube. This culture was obtained from Case X., H. H., and was 24 days old. The injection was made into the left forearm, the skin being previously shaved and thoroughly cleansed.

The temperature went steadily up, reaching 106° F. on the 15th day of illness. For the first ten days the monkey was lively and continued to eat his food, but after this time he began to lie about and refuse his food. Death occurred 16 days after inoculation.

Post-mortem examination. The body was fairly well nourished. Heart apparently normal. Lungs, some sero-purulent exudation in the bronchi, otherwise the lungs appeared healthy. Liver enlarged and congested. Intestines, some congestion at the ileo-cæcal valve, otherwise normal. Spleen much enlarged and congested.

Immediately after death the viscera were examined, and inoculations made into agar-agar from the spleen and other organs. The characteristic growth took place in the tubes inoculated after the usual time.

From these experiments it will be seen that the injection of pure cultivations of the micrococcus of Malta Fever into monkeys gave rise to a disease bearing a strong resemblance to that found in man, and caused death in three experiments out of four.

Further, it will be noted that from the three fatal cases the same micro-organism was again recovered in a state of pure culture.

From the above considerations sufficient evidence has, in my opinion, been brought forward to show that in all probability the micrococcus above described is the proximate cause of Malta Fever, and is the strongest evidence

yet adduced to show that this disease is a specific fever, quite distinct from typhoid or malaria.

In regard to the important question as to how this micro-organism gains access to the human subject, whether by the air, in the drinking water, or in the food, absolutely nothing is known up to the present, and on account of the high temperature required for its growth, the length of time which elapses before the colonies appear, and the absence of any well-marked morphological or cultural characteristics, will render the search for it outside the body very difficult, if not impossible.

APPENDIX No. V.

REPORT OF SIX CASES OF LIGHTNING STROKE.

By Surgeon-Captain J. E. Trask, Army Medical Staff.

A cricket match was in progress at the Divisional Cricket Ground, Aldershot, on August 2nd, 1890. The morning of that day was fine and warm. After luncheon the sky became overcast, and distant thunder was once or twice heard.

It may here be mentioned that the cricket ground is surrounded on three sides—west, south, and east—by trees; mostly birch, with a few tall poplars on the south-west border. Here several soldiers were lying down watching the match. The north side of the ground is open, but a canal winds along about 300 yards distant.

About 3.45 p.m. a heavy cloud came up from the west, and seemed to concentrate itself immediately over our heads. The Aldershot eleven, with myself, were fielding at the time. One or two heavy drops of rain fell, and then simultaneously came a tremendous crash of thunder, accompanied by very vivid and forked lightning. Everyone of us in the field felt it to some extent. I thought a small stone had struck me smartly on the top of the head. Everyone for the moment appeared paralysed. The ball had just been delivered, and neither the batsman nor the wicket-keeper knew anything about it, and it went to the boundary. Immediately there was a shout from the men under the trees on the west side of the ground proclaiming that some accident had happened. It was found that six men had been struck by lightning. The injured ones were at once dragged on to the ground away from the trees by their comrades. I ran across to them, and went to the one who appeared the worst, whom we will call Private E——, The King's Regiment. When he was struck he was lying with his left shoulder and head in contact with a tree, which was the first of a row of high poplars, and the only one struck. His face was cold, clammy, and slightly blue; hands blanched and very cold. Conjunctivæ congested; pupils dilated, fixed, and markedly oval in a vertical direction. No pulse could be felt at the wrist. Respiration had apparently ceased. Without further examination I at once undid his coat and started artificial respiration. After about twenty minutes he slowly came round. I then poured a little brandy and water down his throat. On regaining consciousness he appeared to be in agony, complaining of intense pain in the calves of his legs, back of his knees, and at the upper, inner, and front parts of his thighs. He still remained very cold; pulse slow and small, pupils being now circular and dilated. He expectorated a little mucous phlegm. There was no vomiting. He was wrapped in blankets and taken to the Cambridge Hospital on a stretcher.

On arriving in hospital he was conscious but somewhat dazed. Pupils were dilated, but reacted sluggishly to light. Temperature and respiration normal. Pulse 58. Some hyperæsthesia of the skin of the legs. The hair on left side of his head was singed, and also his eyelashes. There was slight conjunctivitis. Burns of the first and second degree ran down the left side of his neck to the shoulder. Similar burns were freely scattered over the back, extending from the left shoulder to the right hip. His flannel shirt was considerably singed, and several small holes were burnt through in places corresponding to the burns on his back. A few small holes were burnt in his red serge jacket. Towards evening the pain in the calves of his legs became

so intense that an anodyne was administered. On August 4th his pains had abated considerably, being only felt in the lower part of his legs and ankles. He remained in hospital 16 days, and was then discharged to his duty. He stated, with reference to the accident, that he remembered nothing, heard no thunder.

October 20th.—He tells me that he has been doing his duty regularly, that is, guards, parades, pickets, and fatigues. He says that his "ankles" have been weaker since the accident. Still has discolouration of the integument where the burns on his back were. No defect of vision.

Private B——, The King's Regiment, was at once taken by some comrades, in a cart, to the hospital. He was not seen by any medical man until his arrival there. Condition on admission: Insensible, pupils dilated, left more than right, and fixed; pulse at the wrist very slow, and almost imperceptible; temperature and respiration normal; extremities cold. He recovered consciousness at 7 a.m. on August the 3rd, about 15 hours after the accident. He then complained of severe pain in his head and back, and stiffness of the right leg. Sensation and reflexes normal. Pupils normal, reacted perfectly to light and accommodation. Bromide of potass., gr. 30, was given every three hours. The markings on this man were unlike the rest; being spots of burns of first and second degree freely sprinkled over abdomen, chest, and legs. From some of these faint arborescent markings extended. He had, in addition, a broad streak commencing at the buttock and running down the back of the right leg to the ankle. His first sensations were different from the rest. He states that he felt as if someone had given him a blow on the head, after which he lost sensation below the waist, and then felt as if his legs were sinking from him, and his body gradually expanding in size until he became unconscious. He was lying three or four feet from the tree which was struck. The only mark on his clothes was a brown singed appearance of the inner surface of the right leg of his drawers corresponding to the marking on that leg.

August 4th.—Pains considerably relieved; bromide stopped. Still had stiffness in his right leg, with a feeling of soreness of the muscles, which confined him to bed for some days. His convalescence was slow. He remained in hospital 32 days, and was then discharged to his duty.

October 20th.—He states that since the accident he has been employed in the regimental office as a clerk, for, owing to the weakness of his right leg, he has been unable to perform his ordinary duties. He says that he feels worse in damp weather, and always limps towards the end of the day.

The above two men, Privates E—— and B——, were for some days extremely sensitive to any sudden noise, such as the morning and midday gun, or the slamming of a door, which caused a paroxysm of pain to shoot down their limbs.

Private D——, 1st King's Royal Rifle Corps, was lying down three or four yards from the trunk of the tree struck, under its branches. He remembers hearing the thunder and nothing more. When he came to himself he states that he was a yard or two away from his original position. He complained of slight pains on the inner sides of both thighs, which soon passed off. He showed a red streak down the back of his right arm which caused some temporary pain.

October 21st.—Says that he has been doing his usual work (he is a mess waiter) since the accident, but that his right arm still feels "weak."

Private C——, 1st King's Royal Rifle Corps, lying close to D——, states that he heard nothing, but became immediately unconscious. When he came to himself he was quite unable to move his limbs or to speak. He remained thus for about 20 minutes. He showed a red marking commencing at the front of the left shoulder, where there was a hole in the thick woollen jersey he wore. From here it extended down the front of the left arm. Another marking passed from the shoulder down the left side of his chest to just below the nipple, then across to the right side, ending in his right groin.

Private H——, 1st King's Royal Rifle Corps, lying close to the above two men, states that he heard the thunder, and, looking up, saw nothing, but felt suddenly drawn up into a ball and fell back unconscious. On recovery was paralysed for about 10 minutes; the paralysis gradually passed off, first from

his arms and then from his legs. His markings were faint and all of the arborescent kind, extending round both buttocks and radiating down the back of both thighs for a short distance. I have been unable to see Privates C—— and H——, as they are on furlough, pending their departure with the regiment to India.

These three last-mentioned men, Privates D——, C——, and H——, though a good deal scared on the evening of the accident, were able to return to their duties the next day. The markings on their bodies faded rapidly. Every case showed the peculiar arborescent markings, more or less. They were somewhat similar in appearance to the branching of coral.

Private G——, The King's Regiment, was first seen by a civilian practitioner, who commenced artificial respiration at once, but he never recovered consciousness. He was lying with his right shoulder and head against the same tree with Private E——, the first-mentioned case. At the point where his head touched the tree a piece of bark, about 18 inches long and 3 inches wide, was detached when the tree was struck. He was removed to the hospital mortuary. Inside of his shirt was scorched brown. Post-mortem rigidity was intense, coming on almost immediately after death. Pupils irregular, right larger than left, and oval in shape. Hair of head singed on the top, and down the left side, passing behind the left ear. Ear swollen and purple in colour. On left side of neck and top of left shoulder were two superficial eschars, skin black and hardened. From these eschars bright red tracks, about 1 inch broad, passed down the left arm and over the shoulder, and also down the back immediately over the spinal column to the buttocks, where it spread out towards either hip. Passing in front over the chest were bright red arborescent markings. Similar ones were also seen on the sides of the body and limbs. The hair on the inner sides of thighs and arms was singed. Post-mortem examination was made 40 hours after death. Rigidity strongly marked. Post-mortem staining was of a dull reddish purple, extending over the greater part of the body, and not only on the most dependent parts, and traversed by the still bright red markings left by the fluid. *Heart:* cavities empty; left ventricle firmly contracted, right relaxed and flabby. The blood was everywhere liquid and of the colour and consistence of black currant syrup. No clots were found in any portion of the body. *Brain:* Matter greyish in colour, vessels of meninges congested with dark coloured blood. *Spinal cord:* Vessels on surface tortuous and distended. Other organs healthy.

APPENDIX No. VI.

CASE OF COMPOUND FRACTURE OF TIBIA AND FIBULA INTO KNEE JOINT, WITH RUPTURE OF INTERNAL SAPHENOUS VEIN, AND LIGAMENTUM PATELLÆ. RECOVERY WITH USEFUL LIMB.

By Surgeon-Captain J. F. S. Fowler, M.B., Army Medical Staff.

Sergeant M.——, R.A., aged 26. A strong, healthy man was admitted to hospital on the 3rd Feb. 1891. The evening previous he had been tobogganing down a steep hill, and going at a high rate of speed when his right knee came in contact with a post. He felt a sharp pain in his right leg and was carried to his quarters, but not thinking he was seriously injured did not report sick until the next morning.

When admitted the entire leg was so swollen that it was absolutely impossible to diagnose the extent of the injury, and it was feared leg would have to be amputated.

The following were the dimensions of limb :—

—	Injured Limb.	Sound Limb.
Around knee	22 inches.	14 inches.
„ calf	18 „	12 „
„ thigh	22 „	18 „

There was no discolouration and no rise of temperature. No crepitus could be detected.

There was a contused wound 2 inches in length below and to the inside of right knee. Slight loss of sensation in foot. Great pain in leg. Previous history and family history good. Pulse 90 and strong. Case was diagnosed as fracture head of tibia and rupture internal saphenous vein. Leg was wrapped in cotton wool and flannel bandages and put in McIntyre's splint. Given a dose of cathartic mixture with a mixture containing antim. tart. to keep down the circulation.

Leg then got more and more discoloured, but temp. kept normal until the evening of the 8th when it rose to 102, although temp. of foot and leg remained low, and attended by increased swelling, great pain and vascular engorgement of leg from foot to ankle, and gangrene seemed imminent.

Temp., however, subsided the next day and case looked more favourable, swelling gradually decreasing.

On the 16th Feb. a quantity of thick grumous blood was aspirated from leg just below the knee. Through wound in leg could see fracture of heads of tibia and fibula into joint. A quantity of pus now came from wound below knee, so on the 26th Feb. a free incision was made on the outside of leg and lower down to drain pus from over the seat of fracture. Put in a drainage tube. Dressing wounds with sol. hydrarg. perchlor. and iodoform.

March 10th.—Took out drainage tube.

March 19th.—Took leg out of splint, both external wounds healed. Broad depression of tibia below knee instead of a ridge. Ligamentum patellæ ruptured. Diagnosed fracture of fibula 4 inches above ankle. Right knee perfectly stiff.

SIZE OF LEG.

—	Injured Limb (R.).	Sound Limb (L.).
Around knee	15 inches.	14 inches.
„ calf	11½ „	11 „
„ thigh	14½ „	15 „

Put leg in plaster of Paris from ankle to thigh.

April 12th.—Allowed up with crutches.

April 27th.—Plaster taken off and massage prescribed. Is able to get about well.

May 31st.—He was discharged from the service as permanently unfit owing to the disorganisation and stiffness of joint causing lameness.

As the patient remained in this station after being discharged, I have been able to follow case up, and the condition of his leg at present, 10 months after the accident, is as follows, and he states it is getting stronger every day :—

SIZE OF LEG.

—	Injured Limb (R.).	Sound Limb (L.).
Around knees over patella	15 inches.	14 inches.
„ head of tibia	14 „	13 „
„ calf of leg	13 „	13 „

Movements of joint imperfect, cannot straighten leg completely. Flattening and broadening of head of tibia in front below knee. Two long exostoses on internal condyle of tibia with flattened bosses about the size of pigeons' eggs.

Patella an inch higher than sound limb. Upper end of ruptured ligamentum patellæ can be felt and seen. Internal saphenous vein obliterated on injured limb, though prominent on sound leg. Posterior tibial pulse cannot be detected.

Can walk fairly well, but states he suffers some inconvenience from not being able to completely straighten leg.

Remarks.—This case shows the value of conservative surgery, as here we have a case of compound fracture into a joint with rupture of blood vessels, part recovering, by means of perfect rest and antiseptics, with a useful limb.

APPENDIX

Annual Abstract of Meteorological Observations taken

NETLEY. Lat. 50° 51′ N.

Month.	Mean Pressure.	Air Temperature.								Tension of Vapour.	Relative Humidity.		
		Mean daily.	Mean, 9 a.m.	Means of		Abs. Min.		Abs. Max.			Per Cent.	Minimum.	
				Min.	Max.	Temp.	Day.	Temp.	Day.		Mean.	Per Cent.	Day.
January	29·896	45·2	44·2	38·7	51·7	23·0	2nd	58·5	9th	·278	86·8	56·0	22nd
February	30·115	40·6	38·0	33·3	47·8	27·0	3rd.28th	53·0	19, 25th	·217	82·2	57·4	4th
March	29·806	45·2	45·3	35·8	54·5	19·3	4th	65·5	30th	·278	83·9	53·0	9th
April	29·765	48·5	48·7	37·6	59·5	28·0	1, 2, 4th	70·5	15th	·290	76·2	50·1	8th
May	29·775	56·9	58·1	43·8	70·0	34·7	31st	85·0	25th	·361	73·0	51·7	24th
June	29·966	60·5	60·7	48·4	72·6	34·3	1st	82·5	24th	·437	79·1	46·5	7th
July	29·881	62·4	62·6	51·6	73·3	42·3	4th	81·0	15th	·488	79·6	53·0	3rd
August	29·845	62·4	62·8	51·0	73·8	38·0	30th	87·0	18th	·469	78·0	45·4	4th
September	30·096	61·4	61·4	48·8	74·0	34·3	1st	84·3	5th	·478	83·0	54·8	25th
October	30·074	52·2	51·2	40·6	63·8	24·0	28th	77·0	14th	·351	86·2	42·1	18th
November	29·855	44·2	43·2	34·8	53·6	14·5	29th	64·0	20th	·279	88·2	55·0	28th
December	29·986	30·8	30·7	23·9	37·7	12·0	22nd	46·0	1st	·163	86·2	52·0	31st
Total	359·060	610·3	606·9	488·3	732·3	331·4	—	854·3	—	4·089	962·4	617·0	—
Mean	29·922	50·9	50·6	40·7	61·0	27·6	—	71·2	—	·341	81·9	51·4	—

GIBRALTAR. Lat. 36° 6′ 20″ N.

January	30·292	55·0	54·3	49·0	61·1	40·2	31st	69·4	21st	·333	74·9	40·7	21st
February	29·980	54·4	53·4	47·7	61·1	40·8	7th	68·4	13th	·315	75·6	48·8	15th
March	29·983	54·7	54·7	49·3	60·0	40·0	5th	69·8	9th	·327	75·3	45·1	9th
April	29·948	60·4	61·5	54·3	66·6	47·0	13th	75·0	24th	·391	69·5	50·3	28th
May	29·984	62·5	63·1	56·2	68·9	52·2	12th	75·6	25th	·415	69·6	53·1	20th
June	30·087	71·3	73·2	63·8	78·8	57·8	5th	89·2	8th	·502	60·2	36·8	7th
July	30·025	73·8	74·2	67·7	79·9	64·2	1st	86·8	29th	·556	64·8	38·0	14th
August	30·010	74·7	74·6	68·5	80·9	62·8	21st	84·2	13, 23, 27	·565	64·4	39·6	20th
September	30·093	71·4	71·2	67·0	75·9	61·2	24th	84·0	14th	·554	70·2	53·1	23rd
October	30·147	67·3	67·4	63·0	71·7	49·8	29th	81·8	9th	·503	72·5	40·5	28th
November	30·116	59·0	58·3	53·1	65·0	35·0	29th	75·4	2nd	·375	72·0	48·9	13th
December	29·901	52·7	51·6	46·6	58·8	36·0	30th	65·2	16th	·347	85·9	61·6	30th
Total	360·566	757·2	757·5	686·2	828·7	587·0	—	924·8	—	5·183	854·9	555·5	—
Mean	30·047	63·1	63·1	57·2	69·1	48·9	—	77·1	—	·432	71·2	46·3	—

MALTA. Lat. 35° 53′ 49″ N.

January	30·165	58·5	59·9	54·2	62·7	50·2	14th	68·2	1st	·390	72·7	65·2	11th
February	29·892	56·2	56·3	51·6	60·9	46·8	12th	69·8	2nd	·371	79·4	64·2	15th
March	29·905	57·8	58·5	52·4	63·2	45·2	3rd	71·2	31st	·389	76·0	54·6	19th
April	29·823	60·9	61·7	55·9	65·8	51·2	15, 20th	73·2	1st	·429	75·0	53·6	1st
May	29·909	66·1	66·7	60·5	71·8	54·0	4th	79·0	6th	·504	74·7	57·6	18th
June	30·030	70·9	71·3	65·0	76·8	62·2	8, 14th	83·6	23rd	·556	69·8	52·6	10th
July	29·948	77·6	77·9	71·2	83·9	68·0	14th	88·2	23rd	·644	64·6	46·0	20th
August	29·958	79·9	81·9	73·9	85·9	70·8	2nd	91·8	25th	·697	64·1	42·8	25th
September	30·104	71·8	73·3	67·5	76·2	61·8	23rd	82·2	1st	·615	72·4	57·2	8th
October	30·056	68·5	69·2	64·1	72·8	55·0	24, 25th	77·4	14th	·562	77·0	58·8	25th
November	29·909	62·0	62·5	58·3	65·7	51·4	22nd	72·0	6th	·409	72·5	59·0	1st
December	29·843	57·2	57·5	54·0	60·4	47·8	24th	65·8	6th	·360	73·7	53·8	23rd
Total	359·542	787·4	796·7	728·6	846·1	664·4	—	922·4	—	5·916	871·9	665·4	—
Mean	29·962	65·6	66·4	60·7	70·5	55·4	—	76·9	—	·493	72·7	55·4	—

No. VII.

at Netley and Foreign Stations in the Year 1890.

Long. 1° 20′ W. Height of Barometer Cistern above Sea, 47 feet.

Mean Amount of Cloudiness.	Rainfall. Total.	Rainfall. Max.	Rainfall. Day.	Weather. Number of Days of Rain.	Snow.	Hail.	Thunder Storm.	Fog.	Clear Sky.	Overcast.	Gales.	Wind. Means of Observations under each Point per Month. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.
7·1	3·32	0·46	22nd	24	—	—	—	1	3·5	17·5	6·0	2·0	2·0	—	1·5	2·0	19·5	1·0	3·0	—
6·3	0·85	0·53	14th	6	1	1	—	1	5·0	11·5	—	5·5	11·0	1·5	5·0	—	2·0	—	2·0	1·0
7·0	1·28	0·34	24th	17	3	—	—	—	3·5	14·5	—	1·5	4·5	0·5	2·5	2·0	11·5	2·5	5·5	0·5
6·3	3·21	0·74	17th	15	—	2	—	—	4·5	12·5	—	3·5	7·5	1·5	6·5	—	6·0	—	5·0	—
5·2	1·85	0·67	9th	9	—	—	—	—	7·5	8·5	—	0·5	7·5	0·5	6·5	1·5	9·5	1·0	3·5	0·5
7·4	2·85	0·43	29th	17	—	—	—	—	3·5	19·5	—	1·0	0·5	—	1·5	1·0	19·5	1·0	5·5	—
7·3	4·02	1·75	17th	19	—	—	—	—	2·0	17·0	—	0·5	1·5	—	0·5	—	17·5	1·5	9·5	—
6·2	5·25	1·35	9th	14	—	—	—	—	3·5	13·0	2·0	1·5	4·5	—	2·0	—	13·0	2·5	7·5	—
5·2	1·50	0·63	22nd	8	—	—	—	—	11·0	10·0	—	1·0	1·5	—	7·5	2·0	11·0	2·5	4·0	0·5
5·5	0·93	0·28	25th	14	—	—	—	3	8·5	10·0	1·0	1·5	4·0	—	1·0	3·0	10·0	4·0	7·5	—
7·0	1·81	0·42	6th	19	1	—	—	1	3·5	16·5	1·0	3·5	4·0	—	2·0	0·5	11·5	2·5	5·0	1·0
8·6	1·28	0·50	18th	12	6	—	—	—	1·5	25·0	—	—	24·5	2·0	2·5	0·5	—	—	1·5	—
79·1	28·15	8·10	—	174	11	3	—	6	57·5	175·5	10·0	22·0	73·0	6·0	39·0	12·5	131·0	18·5	59·5	3·5
6·6	2·35	0·67	—	14·5	·9	·3	—	·5	4·8	14·6	0·8	1·8	6·1	0·5	3·3	1·0	10·9	1·5	5·0	0·3

Long. 5° 20′ 53″ W. Height of Barometer Cistern above Sea, 53 feet.

4·5	1·67	0·84	3rd	4	—	—	—	—	14·5	9·0	—	—	1·5	11·0	0·5	—	2·0	5·5	8·5	2·0
5·5	6·33	1·10	24th	15	—	1	—	—	8·0	10·5	—	—	3·0	8·5	—	—	—	10·5	6·0	—
6·0	6·15	1·87	1st	19	—	1	1	—	8·5	15·0	1	0·5	0·5	15·5	1·0	0·5	—	4·0	9·0	—
4·0	4·53	1·37	14th	9	—	—	1	—	14·5	7·0	1	—	—	3·0	—	—	—	21·5	4·5	1·0
4·5	3·20	1·34	8th	10	—	—	1	—	15·0	9·0	—	—	1·5	7·0	—	—	1·5	16·5	4·5	—
2·0	0·16	0·16	2nd	1	—	—	1	—	24·0	1·0	—	—	2·5	11·5	0·5	—	2·5	6·5	1·5	5·0
2·5	0·05	0·05	22nd	1	—	—	—	—	19·5	3·0	—	—	5·0	14·5	—	—	2·5	9·0	—	—
2·5	—	—	—	—	—	—	—	1	20·0	4·5	—	—	1·0	12·5	0·5	—	3·0	13·5	0·5	—
5·5	0·09	0·09	11th	1	—	—	—	—	10·0	8·5	—	—	7·5	11·0	—	—	1·0	10·5	—	—
4·5	2·31	1·10	15th	8	—	—	1	—	12·5	9·5	—	—	2·5	19·0	0·5	—	1·0	4·5	3·0	0·5
4·0	0·55	0·52	29th	2	—	—	1	—	15·5	8·5	—	—	1·0	8·5	0·5	—	—	14·0	6·0	—
6·0	8·35	2·33	15th	23	—	—	—	—	6·5	12·5	—	—	5·5	2·0	—	—	1·5	9·0	13·0	—
51·5	33·39	10·77	—	93	—	2	6	1	168·5	98·0	2	0·5	31·5	124·0	3·5	0·5	15·0	125·0	56·5	8·5
4·3	2·78	0·90	—	7·7	—	·2	0·5	·1	14·0	8·2	0·1	0·04	2·6	10·3	·3	0·04	1·2	10·4	4·7	0·7

Long. 14° 30′ 54″ E. Height of Barometer Cistern above Sea, 70 feet.

5·6	1·75	0·44	9th	14	—	—	1	—	6·0	8·0	1	1·0	4·0	3·5	4·5	—	2·0	10·5	5·5	—
6·2	5·37	2·55	26th	15	—	3	2	—	4·5	10·0	1	1·5	2·0	9·5	2·5	2·5	2·0	3·0	5·0	—
4·8	1·02	0·38	1st	12	—	—	1	—	13·5	9·5	—	2·0	5·0	0·5	6·0	3·0	4·5	5·0	5·0	—
4·3	0·46	0·33	16th	4	—	—	—	—	15·0	6·5	—	3·5	1·0	6·5	5·0	0·5	2·0	1·0	10·5	—
2·8	0·43	0·39	3rd	2	—	—	—	—	22·5	4·5	—	2·0	2·5	4·0	4·0	1·5	2·5	1·0	12·5	1·0
1·2	0·07	0·04	4th	2	—	—	—	—	25·0	2·0	—	2·5	2·5	1·0	2·5	—	—	0·5	11·0	10·0
0·2	—	—	—	—	—	—	—	—	30·0	1·0	—	2·0	1·5	1·0	0·5	1·0	—	0·5	10·0	14·5
0·1	—	—	—	—	—	—	—	—	30·5	—	—	2·0	0·5	—	0·5	—	—	—	3·5	24·5
3·5	0·99	0·47	4th	5	—	—	1	—	15·0	2·5	—	0·5	2·5	8·5	0·5	—	0·5	0·5	8·0	9·0
4·7	4·95	1·25	23rd	13	—	—	2	—	14·0	9·5	—	—	5·5	0·5	1·5	1·0	—	3·5	5·5	13·5
4·4	1·70	0·80	6th	12	—	—	4	—	13·0	7·0	—	1·5	1·5	0·5	0·5	2·5	2·5	7·5	1·5	12·0
5·8	5·00	0·95	1st	19	—	—	3	—	7·5	11·0	—	1·0	1·0	0·5	2·0	2·5	4·0	8·0	3·5	8·5
48·6	21·74	7·59	—	98	—	3	14	—	196·5	71·5	2	19·5	29·5	36·0	30·0	14·5	20·0	41·0	81·5	93·0
3·6	1·81	·63	—	8·2	—	0·2	1·2	—	16·4	5·9	0·2	1·6	2·5	3·0	2·5	1·2	1·7	3·4	6·8	7·9

Appendix

Annual Abstract of Meteorological Observations taken

Scutari Cemetery. Lat. 41° 0′ N.

Month.	Mean Pressure.	Air Temperature.								Tension of Vapour.	Relative Humidity.		
		Mean Daily.	Mean, 9 a.m.	Means of		Abs. Min.		Abs. Max.			Per Cent.	Minimum.	
				Min.	Max.	Temp.	Day.	Temp.	Day.		Mean.	Per Cent.	Day.
January	30·137	40·3	39·7	34·6	46·0	28·8	16th	58·2	31st	·202	80·0	63·0	29th
February	30·118	38·4	37·7	33·8	43·0	27·8	27th	52·2	28th	·193	83·7	64·8	28th
March	29·966	48·9	48·1	40·6	57·2	30·4	9th	75·6	31st	·276	77·8	48·8	31st
April	29·859	55·9	56·4	47·0	64·9	40·0	7th	76·2	14th	·341	72·0	46·2	19th
May	29·850	66·8	66·0	56·5	77·2	50·2	2nd	88·6	31st	·476	73·5	37·6	31st
June*	29·888	70·4	71·8	58·4	82·3	51·8	6th	93·2	2nd	·477	60·6	30·4	2nd
July	29·808	77·3	78·2	65·0	89·6	59·0	11th	102·8	8th	·540	56·0	30·8	12th
August	29·857	79·4	80·7	67·1	91·8	61·2	1st	97·8	6th	·603	58·9	34·4	10th
September	30·014	68·3	68·8	59·2	78·3	51·0	28th	93·4	3rd	·503	72·0	37·0	1st
October	30·040	61·1	60·3	52·6	69·7	44·4	24th	78·6	8th	·400	72·3	52·0	15th
November	29·935	57·1	56·2	51·0	63·1	35·8	21st	75·4	4th	·372	78·2	52·4	4th
December	30·011	43·9	43·5	39·7	48·2	26·6	27th	62·2	4th	·241	81·3	54·4	18th
Total	359·483	707·8	707·4	605·5	811·3	507·0	—	954·2	—	4·624	866·3	551·8	—
Mean	29·957	59·0	58·9	50·4	67·6	42·2	—	79·5	—	·385	72·2	46·0	—

* Only 59 wind observations during month.

Polymedia, Cyprus. Lat. 34° 40′ N.

Month.	Mean Pressure.	Mean Daily.	Mean, 9 a.m.	Means of Min.	Means of Max.	Abs. Min. Temp.	Abs. Min. Day.	Abs. Max. Temp.	Abs. Max. Day.	Tension of Vapour.	Relative Humidity. Per Cent. Mean.	Minimum. Per Cent.	Minimum. Day.
January	30·105	50·8	52·3	40·7	60·9	32·8	18th	66·5	6th	·335	76·7	48·8	7th
February	30·009	53·1	56·1	41·7	64·5	36·5	27th	71·5	4th	·392	84·6	56·6	14th
March	29·929	60·6	63·0	48·8	72·3	39·5	9th	81·2	25th	·522	82·0	48·8	30th
April	29·864	66·6	70·3	54·9	78·4	48·8	2nd	89·3	15th	·633	73·8	52·1	8th
May	29·905	72·4	77·7	59·7	85·1	54·5	1st	97·6	31st	·920	86·0	69·2	10th
June	Observations taken at Mount Troodos.												
July													
August													
September													
October*	30·035	73·7	78·3	60·4	86·9	56·2	29th	95·8	31st	·485	46·7	28·7	31st
November	30·012	65·2	67·2	55·1	75·4	42·6	22nd	90·8	1st	·434	60·0	30·2	1st
December	29·975	55·4	57·4	44·8	65·9	38·8	31st	78·9	1st	·343	69·4	42·2	1st
Total													
Mean													

* 25 days.

Mount Troodos, Cyprus. Lat. 34° 55′ N.

Month.	Mean Pressure.	Mean Daily.	Mean, 9 a.m.	Means of Min.	Means of Max.	Abs. Min. Temp.	Abs. Min. Day.	Abs. Max. Temp.	Abs. Max. Day.	Tension of Vapour.	Relative Humidity. Per Cent. Mean.	Minimum. Per Cent.	Minimum. Day.
January													
February													
March													
April													
May													
June*	24·384†	64·6	65·7	52·2	76·9	46·3	19th	85·4	16th	·372	48·0	29·4	24th
July	24·333	72·2	74·0	60·6	83·8	52·4	11th	88·5	5th, 8th	·520	45·9	27·7	14th
August	24·355	71·1	72·0	60·4	81·8	51·5	20th	88·3	5th	·503	50·7	31·0	26th
September	24·417	60·1	59·3	49·4	70·9	38·0	22nd	84·5	2nd	·375	59·0	43·2	24th
October													
November													
December													
Total													
Mean													

* 21 days. † Uncorrected for altitude.

No. VII.—*continued.*

at Netley and Foreign Stations in he year 1890.

Long. 29° 3′ E. Height of Barometer Cistern above Sea, 60 feet.

Mean Amount of Cloudiness.	Rainfall.			Weather.								Wind.								
				Number of Days of								Means of Observations under each Point per Month.								
	Total.	Max.	Day.	Rain.	Snow.	Hail.	Thunder Storm.	Fog.	Clear Sky.	Overcast.	Gales.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.
6·8	2·31	0·80	24th	17	5	—	—	1	5·0	16·5	—	7·5	5·0	2·0	0·5	5·5	5·0	1·0	—	4·5
9·0	2·27	0·47	7th	18	10	—	—	1	1·0	24·0	—	11·5	9·5	4·5	—	0·5	1·0	—	—	1·0
5·9	1·91	0·55	6th	11	2	—	—	2	10·5	15·5	—	3·0	11·0	2·5	1·0	2·0	3·5	1·0	1·0	6·0
5·8	0·81	0·38	8th	6	—	—	—	1	10·5	14·5	—	2·5	12·0	2·5	1·5	4·0	4·0	1·0	—	2·5
4·8	0·85	0·24	19th	11	—	—	5	—	13·0	9·0	—	2·0	7·0	1·0	0·5	5·5	11·0	—	—	4·0
3·3	1·03	0·52	9th	7	—	—	3	—	18·0	5·0	—	4·5	11·0	2·0	—	3·0	4·5	0·5	0·5	4·0
1·5	0·55	0·53	23rd	2	—	—	2	—	23·5	1·0	—	6·5	13·0	5·5	—	4·0	0·5	—	—	—
1·6	—	—	—	—	—	—	—	—	26·0	·5	—	4·0	18·0	3·5	—	2·5	2·5	—	0·5	—
5·0	4·62	1·35	6th	17	—	—	8	—	10·0	7·0	—	5·5	12·5	1·0	0·5	3·0	5·0	0·5	1·0	1·0
4·6	3·97	0·92	23rd	12	—	1	2	2	15·0	8·5	—	3·0	7·5	4·5	0·5	5·0	7·0	—	—	3·5
6·8	2·83	1·18	19th	16	—	—	1	—	6·5	17·0	—	1·5	6·0	2·5	2·0	4·5	5·5	2·0	—	6·0
8·5	1·93	0·24	14th	23	8	—	—	—	2·5	24·0	—	6·5	8·5	8·5	4·0	1·5	0·5	1·0	—	0·5
63·6	23·08	7·18	—	140	25	1	21	7	141.5	142·5	—	58·0	121·0	40·0	10·5	41·0	50·0	7·0	3·0	33·0
5·3	1·92	0·60	—	12	2	·1	1·7	·6	11·8	11·9	—	4·9	10·1	3·3	0·9	3·4	4·2	0·6	0·2	2·8

Long. 32° 59′ E. Height of Barometer Cistern above Sea, 460 feet.

4·5	2·80	0·72	26th	10	—	1	—	—	14·0	12·0	—	7·5	4·5	1·5	2·0	—	0·5	3·5	4·0	7·5
5·0	4·10	1·01	13th	13	—	—	1	—	9·0	12·5	—	3·5	3·0	5·0	1·0	1·0	—	6·0	3·5	5·0
2·5	1·45	1·05	13th	8	—	—	—	—	21·0	6·0	—	1·0	0·5	1·5	1·0	—	2·5	6·5	2·5	15·5
2·3	1·37	0·72	25th	6	—	—	2	—	22·5	6·0	—	—	0·5	1·5	2·0	3·5	1·0	3·5	0·5	17·5
1·6	0·10	0·06	18th	2	—	—	—	—	23·5	3·5	—	—	—	0·5	0·5	5·5	2·5	4·5	—	17·5
1·4	—	—	—	—	—	—	—	—	22·0	1·5	—	0·5	1·0	0·5	1·5	0·5	5·0	7·5	2·0	6·5
4·0	4·67	1·15	16th	12	—	2	4	—	16·5	10·5	—	1·0	—	0·5	2·0	—	3·0	2·5	4·0	17·0
6·0	7·70	1·85	10th	15	—	—	5	—	8·5	14·5	—	3·0	6·5	6·5	3·5	—	0·5	6·0	5·0	—

Long. 32° 53′ E. Height of Barometer Cistern above Sea, 5,720 feet.

0·2	—	—	—	—	—	—	—	—	20·5	—	—	3·0	0·5	—	—	1·0	1·5	3·0	2·0	10·0
0·6	0·01	0·01	30th	1	—	—	—	—	27·5	·5	—	1·5	1·0	0·5	0·5	1·0	1·5	7·5	0·5	17·0
0·8	—	—	—	—	—	—	—	—	28·0	2·0	—	8·0	2·0	2·5	—	—	—	3·5	3·5	11·5
0·6	—	—	—	—	—	—	—	—	28·0	1·0	—	7·0	1·5	0·5	0·5	—	1·5	0·5	5·0	13·5

Appendix

Annual Abstract of Meteorological Observations taken

Fort Napier, Natal. Lat. 29° 3′ S.

Month.	Mean Pressure.	Air Temperature.								Tension of Vapour.	Relative Humidity.		
		Mean daily.	Mean, 9 a.m.	Means of		Abs. Min.		Abs. Max.			Per Cent.	Min.	
				Min.	Max.	Temp.	Day.	Temp.	Day.		Mean.	Per Cent.	Day.
January	29·725	69·3	72·8	53·9	84·8	45·2	20th	96·0	15th	·670	82·5	58·0	27th
February	29·755	69·8	73·3	56·3	83·2	50·0	16, 17th	95·4	28th	·655	84·0	49·2	18th
March	29·914	67·1	70·5	53·3	81·0	46·0	12, 16th	98·0	8th	·537	84·5	42·6	8th
April	29·961	64·7	66·2	48·7	80·6	41·4	9th	94·0	5th	·473	71·7	38·0	25th
May	29·941	59·6	61·7	45·6	73·6	38·0	24th	82·0	8th	·375	69·5	27·0	16th
June	30·081	60·2	63·2	46·5	73·9	37·5	6th	81·0	1st, 5th	·358	62·2	36·0	10th
July	30·025	59·5	61·9	45·5	73·6	32·0	18th	84·0	28th	·315	54·8	29·0	7th
August	29·978	61·6	63·3	49·1	74·0	39·0	16th	88·0	24th	·301	55·3	23·0	23rd
September	29·986	68·9	70·0	54·1	83·7	41·0	3rd	99·0	20th	·348	47·6	25·0	9th
October	29·972	63·9	65·0	52·8	75·0	39·0	10th	94·0	6th	·349	59·0	27·0	5th
November	29·869	68·6	71·0	57·9	79·3	48·0	1st, 20th	95·0	7th	·422	62·2	27·0	4th
December	29·818	70·9	71·0	59·6	82·2	53·0	1st	102·0	21st	·447	65·0	28·0	20th
Total	359·025	784·1	809·9	623·3	944·9	510·1	—	1103·4	—	5·248	798·3	409·8	—
Mean	29·919	65·3	67·5	51·9	78·7	42·5	—	92·4	—	·437	66·5	34·1	—

Barbados.* Lat. 13° 7′ 39″ N.

January	29·994	75·6	79·2	69·9	81·2	66·0	31st	84·0	5, 20, 26	·727	73·0	54·4	20th
February	29·996	74·7	79·2	67·2	82·3	61·0	15th	85·0	25th	·622	62·8	46·4	14th
March	30·011	75·0	79·0	67·9	82·1	63·0	2, 4, 13th	85·0	1, 2, 3rd	·655	65·8	50·4	21st
April	30·016	76·3	80·5	69·7	82·9	61·0	10th	85·0	9,12,20th	·670	64·7	47·4	29th
May	30·034	78·3	82·0	72·1	84·5	69·0	5, 6th	86·0	22, 23, 24 6, 10, 13, 16, 17,18, 25,31(on 8 days).	·699	64·0	51·4	16th
June	30·049	78·5	82·6	72·5	84·6	71·0	1,5,16,17, 25,26,30.	87·0	4, 15, 19	·720	65·3	48·4	4th
July	30·052	78·9	83·2	71·8	86·0	70·0	2, 29th	88·0	20, 25, 28	·716	61·5	50·4	1st
August	30·006	78·8	82·1	71·9	85·7	69·0	16th	89·0	15, 25, 26	·763	70·0	48·4	6th
September	30·069	78·1	82·7	71·3	84·9	69·0	16, 23rd	87·0	4, 5, 8, 9, 29, 30th	·799	71·6	52·0	11th
October	30·021	77·5	82·5	71·2	83·9	69·0	26th	86·0	3, 5, 6, 7, 21, 24th	·816	73·6	64·0	6, 16th
November	29·994	77·3	82·1	69·7	84·9	65·0	30th	86·0	11 days	·775	70·4	57·0	20 21st
December	30·031	76·2	81·0	68·8	83·6	64·0	1st, 6th	86·0	8th	·695	66·8	51·0	31st
Total	360·243	925·2	976·1	844·0	1006·6	797·0	—	1034·0	—	8·657	809·5	621·2	—
Mean	30·020	77·1	81·3	70·3	83·9	66·4	—	86·2	—	·721	67·5	51·8	—

Up. Park Camp, Jamaica. Lat. 17° 59′ N.

January	30·004	78·8	83·2	66·4	91·2	64·0	14, 22, 27	96·0	3rd	·657	56·1	40·6	3rd
February	30·096	78·3	82·7	66·0	90·5	61·0	3rd	94·0	13, 25th	·663	59·5	40·4	4th
March	30·084	77·0	81·9	66·0	88·0	63·0	16th	93·0	2nd	·664	62·1	45·0	2nd
April	30·091	76·7	83·7	64·7	88·7	64·0	15, 25th	92·0	16th	·696	58·7	38·2	13th
May	30·063	80·2	85·4	70·2	90·1	66·0	1st, 2nd	94·0	14th	·726	59·2	43·0	15th
June	30·061	82·5	87·9	72·0	93·0	70·0	4 days	95·0	4 days	·714	52·3	39·4	13th
July	30·017	81·6	87·6	71·4	91·8	68·0	1st	97·0	21st	·687	52·0	44·0	21st
August	30·041	82·1	86·7	71·7	92·5	69·0	8, 24th	97·0	6, 20th	·688	53·8	40·4	6th
September	29·965	82·1	87·0	71·2	93·1	69·0	13th	97·0	12, 30th	·735	57·7	48·1	18th
October	29·945	81·6	86·3	71·1	92·1	68·0	29th	95·0	1st	·769	59·2	48·1	23rd
November	29·950	81·1	84·3	70·4	91·8	68·0	28th	96·0	20th	·728	60·3	43·0	13th
December	30·022	78·9	82·3	67·7	90·1	64·0	1st, 23rd	93·0	4 days	·681	61·1	48·1	26th
Total	360·359	960·9	1019·0	828·8	1092·9	794·0	—	1139·0	—	8·408	692·0	518·3	—
Mean	30·030	80·1	84·9	69·1	91·1	66·2	—	94·9	—	·701	57·7	43·2	—

No. VII.—*continued.*

at Netley and Foreign Stations in the Year 1890.

Long. 30° 2′ E. Height of Barometer Cistern above Sea, 2,220 feet.

Mean Amount of Cloudiness.	Rainfall. Total.	Rainfall. Max.	Rainfall. Day.	Weather. Number of Days of Rain.	Snow.	Hail.	Thunder Storm.	Fog.	Clear Sky.	Overcast.	Gales.	Wind. Means of Observations under each Point per Month. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W	Calm.
5·8	4·30	1·20	9th	11	—	—	7	—	12·5	16·5	—	2·0	2·0	2·5	7·5	2·0	0·5	—	1·0	13·5
5·7	11·13	6·20	10th	7	—	—	5	—	12·0	15·5	1	0·5	1·5	4·5	7·5	1·5	—	0·5	—	12·0
4·1	5·16	3·00	14th	7	—	—	5	—	14·5	7·5	—	1·0	4·0	2·5	7·5	7·0	1·0	—	—	8·0
2·5	3·22	1·60	5th	7	—	—	—	—	20·0	3·5	—	1·0	2·0	2·0	7·0	12·0	0·5	0·5	1·0	4·0
1·5	·97	0·50	23rd	5	—	—	1	1	23·0	2·0	—	2·0	2·0	4·5	4·0	6·0	1·0	1·0	—	10·5
1·4	·48	0·45	27th	2	—	—	1	3	26·0	1·5	—	3·0	1·5	5·0	3·5	6·5	2·5	1·0	0·5	6·5
1·8	—	—	—	—	—	—	—	—	22·0	1·5	2	3·0	3·5	3·5	2·0	11·5	2·5	1·0	0·5	3·5
2·9	·90	0·38	13th	3	—	—	1	1	18·0	5·0	—	2·5	2·0	5·0	5·5	8·5	1·0	3·0	1·5	2·0
2·9	·50	0·16	17th	6	—	—	2	1	16·5	3·5	—	3·5	3·0	7·0	2·0	7·0	2·0	3·0	0·5	2·0
5·4	3·70	1·17	24th	20	—	—	3	—	7·5	7·5	—	4·0	3·5	6·5	3·5	6·0	3·5	2·5	—	1·5
5·6	7·77	1·70	26th	20	—	3	7	—	7·0	8·5	—	1·0	5·0	8·0	2·5	6·0	2·0	1·5	1·0	3·0
5·2	4·04	1·50	26th	18	—	—	7	—	6·5	7·5	—	1·0	2·0	9·5	2·0	4·5	3·0	1·5	1·0	6·5
45·3	42·17	17·86	—	106	—	3	39	6	185·5	80·0	3	24·5	32·0	60·5	54·5	78·5	19·5	15·5	7·0	73·0
3·8	3·51	1·49	—	8·8	—	·3	3·2	·5	15·5	6·7	·3	2·0	2·7	5·0	4·5	6·5	1·6	1·3	0·6	6·1

Long. 59° 40′ 8″ W. Height of Barometer Cistern above Sea, 30½ feet.

5·9	4·61	0·65	3rd	21	—	—	—	—	3·0	6·5	—	—	14·5	16·5	—	—	—	—	—	—
4·4	1·59	0·67	16th	11	—	—	—	—	6·0	1·0	—	—	27·5	0·5	—	—	—	—	—	—
6·1	2·06	0·47	7th	17	—	—	—	—	4·0	10·0	—	2·5	24·5	4·0	—	—	—	—	—	—
7·0	2·22	0·83	18th	9	—	—	—	—	2·0	17·0	—	—	20·5	9·5	—	—	—	—	—	—
6·1	0·98	0·33	18th	8	—	—	—	—	1·5	7·0	—	—	23·0	8·0	—	—	—	—	—	—
5·8	2·03	0·47	28th	15	—	—	—	—	2·5	4·0	—	—	13·5	16·5	—	—	—	—	—	—
4·8	1·29	0·40	7th	14	—	—	—	—	4·0	1·5	—	—	20·0	11·0	—	—	—	—	—	—
5·7	6·34	1·70	31st	16	—	—	2	—	5·0	7·5	—	—	26·0	3·0	1·5	—	—	—	0·5	—
5·1	6·96	1·70	21st	13	—	—	2	—	6·5	4·0	—	—	6·5	11·0	7·5	—	—	—	—	5·0
6·5	7·76	1·97	19th	21	—	—	2	—	2·5	8·0	—	—	20·0	—	3·0	—	—	—	—	8·0
4·2	1·31	0·50	22nd	10	—	—	—	—	6·5	1·0	—	—	15·0	2·5	1·5	—	—	—	—	11·0
4·5	2·15	1·10	9th	14	—	—	—	—	10·5	1·5	—	—	26·5	—	—	—	—	—	—	4·5
66·1	39·30	10·77	—	169	—	—	6	—	54·0	69·0	—	2·5	237·5	82·5	13·5	—	—	—	0·5	28·5
5·5	3·28	0·89	—	14	—	—	·5	—	4·5	5·7	—	0·2	19·8	6·9	1·1	—	—	—	0·04	7·1

Long. 76° 56′ W. Height of Barometer Cistern above Sea, 245 feet.

3·4	1·26	0·35	16th	9	—	—	—	—	16·5	3·0	—	1·0	3·0	1·0	7·0	7·0	6·0	2·0	3·5	0·5
2·8	0·39	0·19	18th	3	—	—	—	—	18·0	2·0	—	1·5	3·0	0·5	7·5	7·5	3·5	1·5	3·0	—
3·0	3·92	1·81	5th	11	—	—	1	—	17·0	2·5	2	1·5	4·0	0·5	11·0	3·0	4·5	3·0	2·0	1·5
3·1	0·69	0·42	21st	4	—	—	—	—	15·5	3·0	—	3·0	2·5	0·5	9·5	7·0	4·0	2·0	1·0	0·5
3·0	1·13	0·35	30th	7	—	—	3	—	19·5	3·0	1	0·5	1·0	—	20·0	6·0	0·5	1·5	1·5	—
3·1	1·09	0·66	29th	4	—	—	1	—	19·5	2·0	—	—	2·0	2·0	14·0	3·0	4·0	1·5	2·0	1·5
3·9	1·47	0·41	13th	10	—	—	3	—	15·0	2·5	—	1·0	—	0·5	17·0	1·0	2·5	0·5	1·0	7·5
4·3	5·60	2·20	22nd	11	—	—	3	—	13·5	4·0	—	0·5	1·0	0·5	15·0	2·0	3·5	1·0	2·0	5·5
3·6	2·09	0·44	1st	11	—	—	5	—	17·0	3·0	—	3·5	5·5	—	11·5	0·5	3·5	1·5	4·0	—
4·2	4·01	1·40	3rd	13	—	—	3	—	16·0	4·0	—	1·5	3·0	1·0	12·5	—	2·5	1·0	3·5	6·0
4·0	4·09	1·28	27th	15	—	—	—	—	14·0	4·0	—	2·5	1·5	—	8·5	0·5	2·0	—	0·5	14·5
3·9	0·91	0·30	28th	9	—	—	—	—	16·5	6·0	—	1·0	5·0	0·5	7·0	0·5	2·5	—	0·5	14·0
42·3	26·65	9·81	—	107	—	—	19	—	198·0	39·0	3	17·5	31·5	7·0	140·5	38·0	39·0	15·5	24·5	51·5
3·5	2·22	0·82	—	9·0	—	—	1·6	—	16·5	3·3	0·3	1·5	2·6	0·6	11·7	3·2	3·2	1·3	2·0	4·3

* Wind force not recorded for first eight months.

Appendix

Annual Abstract of Meteorological Observations taken

Newcastle, Jamaica. Lat. 18° 6′ N.

Month.	Mean Pressure.	Mean Daily.	Air Temperature. Mean, 9 a.m.	Means of Min.	Means of Max.	Abs. Min. Temp.	Abs. Min. Day.	Abs. Max. Temp.	Abs. Max. Day.	Tension of Vapour.	Relative Humidity. Per Cent. Mean.	Min. Per Cent.	Min. Day.
January	26·428	69·7	No instruments.	61·2	78·1	53·0	23rd	86·0	26th	No instruments.			
February	26·363	66·9		54·6	79·2	47·0	5th	87·0	20th				
March	26·346	66·8		56·1	77·5	52·0	4th	89·0	19th				
April	26·437	67·0		51·1	82·9	48·0	6, 15, 22	98·0	11, 25th				
May	26·458	70·2		53·6	86·8	50·0	11th	103·0	20th				
June	26·436	71·4		54·0	88·8	52·0	6, 10, 17	97·0	5th				
July	26·438	69·1		55·4	82·8	52·0	2nd	90·0	31st				
August	26·438	71·3		60·6	82·1	56·0	22nd	90·0	2n d				
September	26·441	72·6		62·0	83·3	60·0	1, 17, 22	89·0	29th				
October	26·423	72·3		62·3	82·3	60·0	2, 3, 16, 18, 19th	86·0	3, 9, 11, 17, 23				
November	26·427	69·7		60·4	79·1	55·0	30th	87·0	18th				
December	26·457	67·0		58·9	75·2	53·0	1st	84·0	3, 10th				
Total	317·052	834·0	—	690·2	978·1	638·0	—	1086·0	—	—	—	—	—
Mean	26·421	69·5	—	57·5	81·5	53·2	—	90·5	—	—	—	—	—

Morne Fortune, St. Lucia. Lat. 14° 0′ 53″ N.

January						No instruments.							
February		72·4	71·4	68·1	76·6	65·4	26th	77·9	25, 28th	·625	82·5	61·8	28th
March		73·3	74·2	68·2	78·5	65·0	14th	83·1	17th	·616	71·2	56·3	9th
April		74·8	76·2	69·7	79·9	66·8	17th	82·2	22nd	·642	71·8	57·1	8th
May		76·9	77·9	71·5	82·2	69·5	4th	86·7	26, 28th	·752	76·9	59·6	12th
June		76·9	77·9	71·6	82·3	69·0	1st	84·1	1st	·742	77·9	61·8	4th
July		77·6	79·2	71·8	83·6	69·1	23rd	85·4	23rd	·738	73·8	57·3	26th
August	30·059	78·0	78·9	72·2	83·7	70·4	16th	87·5	8th	·765	77·9	59·5	7th
Sept.	30·046	78·8	80·5	72·1	85·5	70·0	11,17,18, 19, 20	89·0	29th	·779	74·5	53·8	15th
Oct.	30·023	77·9	79·8	71·9	84·0	68·6	19th	88·0	6th	·794	77·8	51·0	14th
Nov.	30·009	77·1	78·6	70·9	83·3	68·6	6th	85·2	8, 15th	·732	74·6	60·0	30th
Dec.	30·047	75·5	75·7	69·7	81·3	68·2	30th	83·5	20th	·681	78·7	63·1	20th
Total		839·2	850·3	777·7	900·9	750·6	—	952·6	—	7·866	837·6	641·3	—
Mean‡		76·3	77·3	70·7	81·9	68·2	—	84·8	—	·715	76·1	53·4	—

Nassau, Bahamas. Lat. 25° 5′ N.

January	30·212	73·4	74·0	67·0	77·8	60·7	9th	81·3	22nd	·586	69·6	53·5	22nd
February	30·136	73·4	74·7	65·4	81·3	61·0	6th	85·0	27th	·585	68·4	52·4	19th
March	30·103	71·9	73·6	63·9	80·0	56·0	17, 18th	89·7	29th	·567	67·6	51·7	18th
April	30·139	75·5	77·2	67·1	83·8	62·5	18th	90·0	30th	·564	58·4	47·9	29th
May	30·036	79·3	81·0	70·9	87·6	67·0	8th	93·3	17th	·738	69·6	54·5	26th
June	30·106	81·9	83·9	73·5	90·2	71·5	3rd	94·7	29th	·771	66·4	54·5	29th
July	30·082	82·8	84·5	74·1	91·6	70·0	12th	96·2	9th	·809	67·2	57·0	26th
August	30·064	82·7	84·8	74·4	91·0	71·2	10th	94·7	13th	·809	68·0	57·9	29th
September	30·022	82·0	83·8	73·5	90·5	69·0	11, 18th	94·0	23rd	·834	72·4	62·2	7th
October	29·997	80·4	82·8	72·2	88·5	61·0	28th	92·6	14th	·734	65·2	51·0	26th
November	30·027	76·9	77·6	71·2	82·6	65·5	30th	89·3	2nd	·703	73·0	55·0	24th
December	30·119	70·8	72·3	64·0	77·7	54·7	11th	82·3	5, 14th	·540	67·4	50·8	17th
Total	361·043	930·0	950·2	837·2	1022·6	770·1	—	1083·1	—	8·240	813·2	648·4	—
Mean	30·087	77·5	79·2	69·8	85·2	64·2	—	90·3	—	·687	67·8	54·0	—

* Uncorrected for altitude.

No. VII.—*continued.*

at Netley and Foreign Stations in the Year 1890.

Long. 76° 42′ W. Height of Barometer Cistern above Sea; 3,800 feet.

Mean Amount of Cloudiness.	Rainfall.			Weather.								Wind.								
				Number of Days of								Means of Observations under each Point per Month.								
	Total.	Max.	Day.	Rain.	Snow.	Hail.	Thunder Storm.	Fog.	Clear Sky.	Overcast.	Gales.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.
3·6	10·37	5·15	3rd	19	—	—	—	1	17·5	3·5	—	12·5	6·5	0·5	—	—	—	0·5	3·5	7·5
4·0	3·94	2·25	18th	11	—	—	—	—	13·0	3·5	—	0·5	11·5	10·0	—	—	—	—	—	6·0
4·8	8·12	2·75	5th	12	—	—	—	—	12·0	10·0	—	6·0	9·0	14·0	—	—	—	—	1·0	1·0
4·6	6·54	3·15	12th	18	—	—	—	—	11·5	8·0	—	—	8·5	10·0	—	—	—	—	—	11·5
4·8	5·49	3·56	22nd	20	—	—	—	—	9·5	5·0	—	0·5	3·0	18·0	—	—	—	—	—	9·5
5·1	3·16	1·25	18th	9	—	—	—	—	11·5	10·0	—	—	—	13·0	—	—	—	0·5	—	16·5
4·8	2·23	0·75	19th	13	—	—	—	—	10·5	7·5	—	2·5	2·0	10·0	3·5	—	—	—	—	13·0
5·1	8·62	3·80	22nd	13	—	—	1	—	8·0	6·5	1	1·5	7·0	8·5	5·0	—	—	—	—	9·0
4·9	21·41	3·05	23rd	18	—	2	10	—	8·5	6·0	—	—	5·0	6·5	2·0	—	—	—	—	16·5
4·7	5·50	1·10	25th	13	—	—	—	—	7·5	5·0	2	2·0	8·5	5·5	0·5	—	—	0·5	—	14·0
5·4	9·70	2·50	22nd	17	—	—	—	—	5·5	8·0	1	—	10·0	6·0	—	—	—	—	—	14·0
5·4	13·05	4·25	21st	19	—	—	—	1	8·0	11·0	2·5	—	12·0	8·5	1·0	—	—	—	—	9·5
57·2	98·13	33·56	—	182	—	2	11	2	123·0	84·0	6·5	25·5	83·0	110·5	12·0	—	—	1·5	4·5	128·0
4·8	8·18	2·79	—	15	—	0·2	0·9	0·2	10·1	7·0	·5	2·1	6·9	9·2	1·0	—	—	0·1	0·4	10·7

Long. 61° 0′ 25″ W. Height of Barometer Cistern above Sea, 790 feet.

6·7	10·65	3·36	21st	28	—	—	—	—	3·5	15·0	—	—	20·0	6·0	3·5	0·5	—	—	—	1·0
4·5	4·88	1·04	22nd	22	—	—	—	—	11·5	5·5	—	0·5	23·0	4·0	—	—	—	0·5	—	—
4·5	5·84	0·79	10th	21	—	—	—	—	9·5	5·5	1	1·5	5·5	17·5	1·0	—	—	0·5	4·0	1·0
6·9	4·33	1·48	15th	16	—	—	—	—	3·5	14·5	—	1·0	9·5	18·0	1·0	—	—	—	—	0·5
6·8	4·07	0·71	6th	23	—	—	—	—	4·5	14·5	—	—	9·5	19·0	1·5	—	—	—	—	1·0
8·0	6·49	0·63	10th	27	—	—	—	—	1·0	22·0	—	—	12·5	16·0	1·0	—	—	—	—	0·5
6·3	5·66	0·63	10th	27	—	—	—	—	2·0	9·5	—	—	6·0	19·5	4·5	0·5	—	—	—	0·5
6·4	10·18	2·84	18th	29	—	—	—	—	1·0	7·5	1	—	13·0	15·0	2·0	—	—	—	—	1·0
5·7	5·23	1·04	19th	23	—	—	—	—	5·5	5·0	—	0·5	5·5	17·5	4·0	1·0	—	—	—	1·5
6·5	12·03	2·15	1st	28	—	—	2	—	1·0	6·0	—	1·0	6·0	20·0	4·0	—	—	—	—	—
5·0	7·32	1·65	22nd	23	—	—	—	—	5·0	2·5	—	—	6·5	22·5	1·0	—	—	—	—	—
5·5	12·56	5·85	9th	23	—	—	—	—	4·5	5·0	0·5	—	9·5	16·5	5·0	—	—	—	—	—
72·6	87·24	22·17	—	29·0	—	—	2	—	52·5	112·5	2·5	4·5	126·5	191·5	28·5	2·0	—	1·0	4·0	7·0
6·1	7·27	1·85	—	24	—	—	0·2	—	4·4	9·4	0·2	0·4	10·6	15·9	2·4	0·2	—	0·1	0·3	0·6

Long. 77° 21′ W. Height of Barometer Cistern above Sea, 47 feet.

5·5	0·71	0·25	17th	7	—	—	—	—	8·0	10·0	1	2·0	13·0	15·0	—	—	—	—	—	1·0
5·7	0·14	0·06	12th	5	—	—	—	—	5·5	6·0	—	1·5	3·5	10·0	6·5	2·5	—	0·5	1·0	2·5
7·1	1·74	1·25	6th	10	—	—	—	—	3·0	12·5	1	4·0	5·0	7·5	8·0	3·0	—	—	2·5	1·0
5·8	0·25	0·25	6th	3	—	—	—	—	3·0	6·5	—	1·0	11·0	6·0	6·0	2·5	1·5	0·5	1·5	—
7·8	9·76	4·04	19th	12	—	—	4	—	1·0	19·0	—	1·5	4·0	1·0	18·0	2·0	1·5	1·0	1·5	0·5
7·4	4·49	2·77	2nd	6	—	—	1	—	0·5	11·5	—	1·0	3·5	7·5	12·0	3·5	1·0	—	—	1·5
7·8	6·95	1·30	22nd	20	—	—	8	—	—	18·5	—	0·5	3·5	10·0	9·0	3·0	2·5	—	1·5	1·0
7·4	4·70	1·15	1st	15	—	—	5	—	—	14·5	—	1·0	3·0	15·5	6·5	1·0	0·5	0·5	0·5	2·5
8·1	7·07	1·37	17th	21	—	—	11	—	—	20·5	—	1·0	4·5	12·0	5·0	2·5	0·5	0·5	—	4·0
7·3	1·67	0·96	20th	8	—	—	—	—	1·0	15·5	—	3·0	7·5	6·0	6·0	1·5	2·0	—	3·0	2·0
7·8	6·61	2·27	28th	12	—	—	1	—	—	15·5	1	1·5	12·0	10·5	1·0	0·5	1·5	—	1·5	1·5
5·9	0·48	0·17	9th	5	—	—	—	—	6·5	10·5	—	4·0	7·0	4·5	2·5	1·0	2·5	2·5	6·5	0·5
83·6	44·57	15·82	—	124	—	—	30	—	28·5	160·5	3	22·0	77·5	105·5	80·5	23·0	13·5	5·5	19·5	18·0
7·0	3·71	1·32	—	10·3	—	—	2·5	—	2·4	13·4	0·2	1·8	6·5	8·8	6·7	1·9	1·1	0·5	1·6	1·5

Appendix

Annual Abstract of Meteorological Observations taken

BERMUDA. Lat. 32° 17′ 40″ N.

Month.	Mean Pressure.	Air Temperature.								Tension of Vapour.	Relative Humidity		
		Mean Daily.	Mean, 9 a.m.	Means of		Abs. Min.		Abs. Max.			Per Cent.	Min.	
				Min.	Max.	Temp.	Day.	Temp.	Day.		Mean.	Per Cent.	Day.
January -	30·289	64·3	64·7	57·2	71·5	47·3	29th	80·7	22nd	·455	72·7	54·0	30th
February	30·162	65·1	64·9	57·9	72·3	48·4	24th	78·0	9th	·463	74·5	54·0	16th
March -	30·134	65·0	65·7	57·5	72·5	45·3	10th	79·0	27th	·474	72·0	57·0	11th
April -	30·155	65·7	66·8	57·4	74·0	52·2	7th	82·5	30th	·476	69·3	51·0	7th
May -	30·153	72·3	73·4	64·7	79·9	60·0	10th	85·0	18th	·637	74·4	54·0	26th
June -	30·120	74·9	76·3	67·8	82·0	61·5	1st	86·0	9th	·724	77·8	61·0	4th
July -	30·196	78·3	80·4	72·2	84·5	70·0	1, 2, 12, 23, & 24	86·4	6th	·785	73·9	63·0	28th
August -	30·201	80·2	82·0	73·4	87·0	69·0	16th	92·0	28th	·762	68·8	56·5	18th
September	30·175	78·1	79·8	72·6	83·6	70·5	9th	87·0	1st	·721	69·8	54·5	11th
October -	29·985	72·6	73·8	68·1	77·0	61·8	28th	83·2	15th	·606	69·2	53·9	16th
November	30·095	68·1	69·2	64·1	72·1	56·8	22nd	79·4	3rd	·552	75·7	57·0	22nd
December	30·078	63·4	64·2	59·0	67·8	51·3	29th	73·5	9th	·461	74·2	61·0	20th
Total -	361·743	846·0	861·2	771·9	924·2	694·1	—	992·7	—	7·116	872·3	676·9	—
Mean -	30·145	70·7	71·8	64·3	77·0	57·8	—	82·7	—	·593	72·7	56·4	—

FORT CANNING, SINGAPORE.* Lat. 1° 16′ N.

January -	29·853	78·8	79·9	72·5	85·1	70·2	5th	88·6	25th	·850	84·5	65·0	1st
February	29·877	79·6	81·4	72·7	86·6	70·2	19th	88·4	15th	·847	78·0	71·6	1st
March -	29·856	80·4	82·2	73·2	87·6	71·2	5th, 28th	90·2	15, 31st	·861	77·6	59·8	11th
April -	29·850	81·7	84·7	73·8	89·7	72·3	28th	93·3	29th	·917	75·6	60·4	10th
May -	29·847	82·2	84·4	73·5	90·8	71·2	15th	93·4	1st, 3rd	·926	76·8	68·8	11th
June -	29·837	81·5	83·5	74·2	88·8	71·2	2nd	91·4	26th	·887	76·4	67·9	29th
July -	29·852	80·3	81·5	72·7	88·0	69·4	14th	91·2	19th	·851	78·5	64·2	10th
August -	29·863	80·2	81·6	72·8	87·5	71·2	29th	91·2	9th	·875	81·1	69·5	10th
September	29·861	80·3	80·6	72·2	88·5	70·2	28th	92·2	12th	·857	81·6	68·4	26th
October -	29·874	80·1	81·5	72·3	87·8	70·2	11, 17th	92·4	7th	·829	76·0	65·0	4th
November	29·883	80·3	80·8	72·3	88·3	70·2	5th	91·3	5th	·831	77·8	69·6	17th
December	29·878	80·4	80·6	71·7	89·1	70·0	24th	91·4	1st, 22nd	·832	79·1	71·0	19th
Total -	358·331	965·8	982·7	873·9	1057·8	847·5	—	1095·0	—	10·363	943·0	801·2	—
Mean -	29·861	80·5	81·9	72·8	88·2	70·6	—	91·2	—	·864	78·6	66·8	—

No. VII.—*continued.*

at Netley and Foreign Stations in the Year 1890.

Long. 64° 47′ W. Height of Barometer Cistern above Sea, 151 feet.

Mean Amount of Cloudiness.	Rainfall.			Weather.								Wind.							
				Number of Days of								Means of Observations under each Point per Month.							
	Total.	Max.	Day.	Rain.	Snow.	Hail.	Thunder Storm.	Fog.	Clear Sky.	Overcast.	Gales.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.
5·0	1·63	0·34	26th	14	—	1	—	—	8·5	5·5	—	1·5	9·0	2·0	2·0	0·5	6·5	2·5	0·5	6·5
4·4	3·34	0·78	12th	12	—	—	—	—	11·0	4·5	—	2·0	5·5	1·5	2·5	—	7·0	0·5	6·0	3·0
4·3	3·51	1·32	26th	14	—	—	1	—	12·5	3·5	—	2·5	9·5	1·0	4·0	0·5	9·5	2·0	1·0	1·0
4·7	4·21	0·86	13th	13	—	1	3	—	10·0	4·5	—	1·0	8·5	1·5	1·5	2·0	12·0	1·0	1·5	1·0
4·2	6·15	1·77	9th	16	—	—	1	—	13·5	4·0	—	1·5	2·0	—	3·0	3·5	17·0	1·0	2·0	1·0
4·9	8·56	1·44	14th	16	—	—	4	—	7·5	5·0	—	1·0	3·0	—	0·5	0·5	15·5	2·0	4·5	3·0
4·2	6·15	1·39	17th	15	—	—	—	—	11·0	1·0	—	—	1·5	1·5	8·0	—	17·0	—	0·5	2·5
4·1	2·81	0·62	15th	15	—	—	2	—	11·5	2·0	—	0·5	1·0	0·5	10·0	1·5	8·5	2·0	1·0	6·0
4·4	4·32	1·81	8th	12	—	—	—	—	10·5	3·0	—	0·5	5·0	3·5	7·5	6·0	3·5	—	—	4·0
5·7	8·03	1·92	29th	17	—	—	4	—	6·5	9·0	—	4·0	1·5	1·0	1·0	1·0	9·5	7·0	4·0	2·0
5·6	4·38	0·94	30th	16	—	—	1	—	6·5	7·5	1	5·0	5·5	2·5	0·5	1·0	4·0	2·0	4·5	5·0
5·4	3·81	1·11	16th	18	—	—	—	—	7·0	5·0	—	5·5	3·5	0·5	1·5	1·5	6·5	6·0	4·0	2·0
56·9	56·90	14·30	—	178	—	2	16	—	116·0	54·5	1	25·0	55·5	15·5	42·0	18·0	116·5	26·0	29·5	37·0
4·7	4·74	1·19	—	15	—	0·2	1·3	—	9·7	4·5	0·1	2·1	4·6	1·3	3·5	1·5	9·7	2·2	2·5	3·1

Long. 103° 53′ E. Height of Barometer Cistern above Sea, 110 feet.

5·0	8·76	1·50	11th	20	—	—	—	—	14·5	9·5	—	10·5	3·0	2·0	0·5	—	1·5	5·5	8·0	—
4·0	9·73	1·85	27th	16	—	—	—	—	17·0	2·5	—	6·0	6·0	0·5	0·5	—	0·5	4·0	10·5	—
4·0	7·25	1·50	29th	16	—	—	—	—	21·5	4·0	—	6·5	3·5	1·5	4·5	2·0	2·0	2·5	8·5	—
3·9	5·79	0·80	9th	16	—	—	—	—	20·0	3·5	—	0·5	—	—	—	—	7·0	15·0	7·5	—
3·6	3·29	0·50	1st	13	—	—	—	—	22·5	3·5	—	—	—	—	—	2·5	12·5	13·5	2·5	—
3·9	5·65	1·20	9th	14	—	—	—	—	21·0	4·0	—	1·0	—	—	1·0	6·0	10·0	9·0	3·0	—
3·3	18·71	4·20	14th	17	—	—	3	—	16·0	8·5	—	—	—	—	—	3·0	16·0	9·5	2·5	—
4·8	7·70	2·50	21st	17	—	—	—	—	16·0	10·0	—	—	—	—	—	4·0	21·0	3·0	3·0	—
4·1	7·32	2·65	7th	19	—	—	—	—	20·5	5·5	—	—	—	—	—	1·0	8·0	14·5	6·5	—
4·5	9·59	1·10	30th	20	—	—	—	—	19·0	7·0	—	—	—	—	1·5	2·0	3·5	9·5	14·5	—
4·6	10·21	2·10	5th	19	—	—	5	—	18·0	7·0	—	8·0	0·5	—	—	1·5	—	4·0	16·0	—
4·4	10·19	2·53	9th	20	—	—	3	—	17·0	6·5	—	6·5	1·5	0·5	—	1·0	2·5	6·5	12·5	—
50·1	104·19	22·43	—	207	—	—	11	—	223·0	71·5	—	39·0	14·5	4·5	8·0	23·0	84·5	96·5	95·0	—
4·2	8·68	1·87	—	17	—	—	0·9	—	18·6	6·0	—	3·3	1·2	0·4	0·7	1·9	7·0	8·0	8·0	—

* Wind force not recorded.

Appendix

Annual Abstract of Meteorological Observations taken

Hong Kong. Lat. 22° 16′ 20″ N.

Month.	Mean Pressure.	Air Temperature.								Tension of Vapour.	Relative Humidity.		
		Mean Daily.	Mean, 9 a.m.	Means of		Abs. Min.		Abs. Max.			Per Cent.	Minimum.	
				Min.	Max.	Temp.	Day.	Temp.	Day.		Mean.	Per Cent.	Day.
January -	30·173	61·3	59·3	55·6	66·9	45·0	4, 5th	74·0	2nd	·404	74·5	47·0	9th
February -	30·180	65·2	64·7	60·1	70·4	52·0	11th	78·0	16th	·496	79·1	40·0	8th
March -	30·065	63·9	63·8	59·7	68·1	51·0	15th	81·0	19, 23	·510	84·5	50·0	1st
April -	29·970	74·1	75·4	68·8	79·4	55·0	6th	87·0	22, 24	·692	76·4	43·0	6th
May -	29·860	80·7	81·1	75·9	85·4	72·0	29, 30th	92·0	17, 18, 20	·793	76·0	49·0	17th
June -	29·787	83·3	84·0	79·1	87·5	75·0	21st	92·0	16th	·890	75·6	58·0	15th
July -	29·748	83·0	82·8	78·5	87·5	71·0	22nd	92·0	13, 15, 29	·889	78·8	59·0	29th
August -	29·776	83·6	84·8	78·6	88·6	75·0	3, 14, 17	92·0	7, 8, 23	·862	73·2	52·0	2nd
September	29·804	81·8	82·7	76·4	87·2	69·0	25th	91·0	6, 20th	·773	68·4	46·0	20th
October -	29·993	78·4	79·7	72·0	84·8	65·0	27, 31st	93·0	12th	·610	58·1	41·0	19th
November	30·133	72·3	73·6	65·7	78·9	55·0	13th	84·0	8th	·521	62·6	39·0	1st
December	30·082	68·2	68·2	62·8	73·6	52·0	31st	82·0	23, 28	·529	74·5	43·0	30th
Total -	358·571	895·8	900·1	833·2	958·3	737·0	—	1038·0	—	7·969	881·7	567·0	—
Mean -	29·881	74·6	75·0	69·4	79·9	61·4	—	86·5	—	·664	73·5	47·2	—

Sanitarium, Hong Kong. Lat. 22° 16′ 20″ N.

January -	—	56·1	—	50·7	61·6	39·0	4th	73·0	31st	No instruments.
February -										
March -										
April -										
May -										
June -	—	78·9	—	74·1	83·7	69·0	8, 20th	87·0	15, 17th	
July -	—	76·1	—	67·3	84·9	54·0	31st	90·0	27th	
August -	—	78·7	—	72·6	84·8	70·0	1st to 7th	88·0	21, 22, 26	
September*	—	77·5	—	71·4	83·7	62·0	24th	89·0	4th	
October† -	—	73·2	—	66·7	79·7	61·0	19th	89·0	1st	
November	—	67·4	—	60·9	73·9	52·0	12, 13th	80·0	8th	
December										
Total -										
Mean -										

* Wind Observations for 24 days only.

† Wind Observations for 16 days only.

No. VII.—*continued.*

at Netley and Foreign Stations in the Year 1890.

Long. 114° 8′ 16″ E. Height of Barometer Cistern above Sea, 18 feet.

Mean Amount of Cloudiness.	Rainfall.			Weather.							Wind.								
				Number of Days of							Means of Observations under each Point per Month.								
	Total.	Max.	Day.	Rain.	Snow.	Hail.	Thunder Storm.	Fog.	Clear Sky.	Overcast.	Gales.	N.	N.E.	E.	S.E.	S.	S.W.	W.	NW.	Calm.
5·1	2·63	0·35	19th	5	—	—	—	—	12·5	12·5	—	1·0	4·0	12·0	—	0·5	1·5	2·0	2·0	8·0
5·3	1·44	0·45	18th	8	—	—	—	—	9·5	9·5	—	1·0	13·5	4·0	—	1·0	—	0·5	2·5	5·5
7·1	4·22	1·50	14th	12	—	—	2	—	8·0	17·5	—	1·0	12·0	10·0	—	—	—	1·0	1·0	6·0
5·6	1·99	0·68	24th	7	—	—	1	—	11·0	13·5	—	1·5	10·5	8·0	2·0	0·5	1·0	—	2·5	4·0
6·7	13·36	5·30	21st	15	—	—	2	—	8·0	15·5	—	1·0	8·5	7·5	1·5	0·5	4·5	2·0	0·5	5·0
6·8	21·71	3·40	5th	20	—	—	2	—	5·5	13·5	—	—	7·0	2·5	3·5	3·0	6·5	0·5	0·5	6·5
7·4	23·05	5·80	24th	19	—	—	6	—	6·0	19·0	—	1·0	1·0	1·0	3·5	5·0	7·5	1·5	2·0	8·5
5·3	9·45	2·55	15th	13	—	—	1	—	12·5	10·0	—	1·0	1·5	3·0	1·5	5·0	5·5	2·0	4·5	7·0
4·4	2·11	0·90	7th	9	—	—	—	—	17·0	7·5	—	2·5	14·5	3·5	—	0·5	2·5	1·0	1·5	4·0
2·3	—	—	—	—	—	—	—	—	24·5	3·5	1	2·5	19·0	1·5	—	0·5	0·5	—	2·0	5·0
3·2	—	—	—	—	—	—	—	—	20·5	5·5	—	1·5	14·5	8·0	0·5	—	—	—	1·0	4·5
4·1	1·41	1·24	6th	3	—	—	—	—	17·5	8·0	—	1·5	20·0	3·0	1·0	0·5	—	1·0	—	4·0
63·3	81·37	22·17	—	111	—	—	14	—	152·5	135·5	1	15·5	126·0	64·0	13·5	17·0	29·5	11·5	20·0	68·0
5·3	6·78	1·85	—	9·2	—	—	1·2	—	12·7	11·3	0·1	1·3	10·5	5·3	1·1	1·4	2·5	1·0	1·7	5·7

Long. 114° 9′ 16″ E. Height of Barometer Cistern above Sea, 905 feet.

6·1	1·73	0·75	20th	5	—	—	—	—	10·5	14·5	4·0	11·0	11·5	4·5	—	—	—	—	—	4·0
5·5	6·65	2·75	19th	9	—	—	1	13	7·0	8·0	2·0	—	1·0	2·0	—	14·0	6·5	2·0	—	4·5
5·1	17·76	5·40	17th	15	—	—	5	12	9·5	9·5	—	0·5	0·5	—	—	13·0	7·5	1·5	—	8·0
3·5	7·86	2·00	16th	10	—	—	—	12	19·0	4·5	—	3·5	1·5	—	—	6·5	6·0	—	—	13·5
3·3	·94	0·40	8th	5	—	—	—	—	19·5	3·5	—	0·5	7·5	6·0	1·0	—	1·0	—	1·0	7·0
1·8	—	—	—	—	—	—	—	—	27·0	4·0	—	—	9·0	5·0	—	—	--	—	—	2·0
1·5	—	—	—	—	—	—	—	—	27·5	—	—	—	14·5	5·5	0·5	—	—	—	—	9·5

Appendix

Summary of Results of Meteorological Observations

Stations.	Altitude, above Sea level.	Latitude.	Longitude.	Air Pressure.	Air Temperature.							Tension of Vapour.	Relative Humidity		
					Mean, 9 a.m.	Means of		Abs. Min.		Abs. Max.			Per Cent.	Min.	
						Min.	Max.	Temp.	Date.	Temp.	Date.		Mean.	Per Cent.	Date.
Mediterranean:	ft.	° ′ ″	° ′ ″												
Gibraltar -	53	36 6 20 N.	5 20 53 W.	30·047	63·1	57·2	69·1	35·0	29 Nov.	89·2	8 June	·432	71·2	36·8	7 Jun
Malta -	70	35 53 49 N.	14 30 54 E.	29·962	66·4	60·7	70·5	45·2	3 Mar.	91·8	25 Aug.	·493	72·7	42·8	25 Au
Scutari -	60	41 0 0 N.	29 3 0 E.	29·957	58·9	50·4	67·6	26·6	27 Dec.	102·8	8 July	·385	72·2	30·4	2 Jun
Cyprus:															
Polymedia	460	34 40 0 N.	32 2 0 E.	29·979	65·3	50·8	73·7	32·8	18 Jan.	97·6	31 May	·508	72·4	28·7	31 Oc
Troodos -	5,720	34 55 0 N.	32 53 0 E.	24·372*	67·7	55·6	78·4	38·0	22 Sep.	88·5	5 and 8 July	·442	50·9	27·7	14 Ju
Natal, "Fort Napier."	2,220	29 3 0 S.	30 2 0 E.	29·919	67·5	51·9	78·7	32·0	18 July	102·0	21 Dec.	·437	66·5	23·0	23 Au
West Indies:															
Barbados -	30‡	13 7 39 N.	59 40 8 W.	30·020	81·3	70·3	83·9	61·0	15 Feb. / 10 April	89·0	3 days in Aug.	·721	67·5	46·4	14 Fe
Newcastle, Jamaica.	3,800	18 6 0 N.	76 42 0 W.	26·421*	No insts.	57·5	81·5	47·0	5 Feb.	103·0	20 May	No instruments.			
Up. Park Camp, Jamaica.	245	17 59 0 N.	76 56 0 W.	30·030	84·9	69·1	91·1	61·0	3 Feb.	97·0	21 July / 6 and 20 Aug. / 12 and 30 Sept.	·701	57·7	38·2	13 Apr
St. Lucia -	790	14 0 53 N.	61 0 25 W.	29·499† / 30·087‡	77·3	70·7	81·9	65·0	14 Mar.	89·0	29 Sept.	·713	76·1	51·0	14 Oc
Nassau, Bahamas.	47	25 5 0 N.	77 21 0 W.	30·087	79·2	69·8	85·2	54·7	11 Dec.	96·2	9 July	·687	67·8	47·9	29 Apr
Bermuda -	151	32 17 40 N.	64 47 0 W.	30·145	71·8	64·5	77·0	45·3	10 Mar.	92·0	28 Aug.	·593	72·7	51·0	7 Apr
ngapore, Fort Canning.	110	1 16 0 N.	103 53 0 E.	29·861	81·9	72·8	88·2	69·4	14 July	93·4	1 and 3 May.	·864	78·6	59·8	11 Ma
Hong Kong -	18	22 16 20 N.	114 8 16 E.	29·881	75·0	69·4	79·9	45·0	4 and 5 Jan.	93·0	12 Oct.	·664	73·5	39·0	1 Nov
Sanitarium, Hong Kong.	905	22 16 20 N.	114 9 16 E.	No instruments.	66·2	78·9		39·0	4 Jan.	90·0	27 July	No instruments.			

* Uncorrected for altitude.

† Uncorrected "Aneroid" average from January to July.

‡ Average mean pressure for 5 months only.

No. VII.—*continued.*

taken at Foreign Stations in the Year 1890.

Mean Amount of Cloudiness.	Rainfall.			Weather.								Wind.									Remarks. No. of Months in which Observations were taken.
				Number of Days of								Means of Observations under each Point per Month.									
	Total.	Max.	Date.	Rain.	Snow.	Hail.	Thunder-storm.	Fog.	Clear Sky.	Overcast.	Gales.	N.	N.E.	E.	S.E.	S.	S.W.	W.	NW.	Calm.	
4·3	33·39	2·33	15 Dec.	7·7	—	0·2	0·5	0·1	14·0	8·2	0·2	—	2·6	10·3	0·3	—	1·2	10·4	4·7	0·7	12 months.
3·6	21·74	2·55	26 Feb.	8·2	—	0·2	1·2	—	16·4	5·9	0·2	1·6	2·5	3·0	2·5	1·2	1·7	3·4	6·8	7·9	12 „
5·3	23·06	1·35	6 Sept.	12·0	2·0	0·1	1·7	0·6	11·8	11·9	—	4·9	10·1	3·3	0·9	3·4	4·2	0·6	0·2	2·8	12 „
3·4	22·19	1·85	10 Dec.	8·3	—	0·4	1·5	—	17·1	8·3	—	1·4	1·3	1·4	1·1	0·9	1·3	3·3	1·8	7·2	8 „
0·5	0·01	0·01	30 July	0·2	—	—	—	—	26·0	0·9	—	4·9	1·2	0·9	0·2	1·5	1·1	3·6	2·8	13·0	4 „
3·8	42·17	6·20	10 Feb.	8·8	—	0·3	3·2	0·5	15·5	6·7	0·3	2·0	2·7	5·0	4·5	6·5	1·6	1·3	0·6	6·1	12 „
5·5	39·30	1·97	19 Oct.	14·0	—	—	0·5	—	4·5	5·7	—	0·2	19·8	6·9	1·1	—	—	—	—	7·1	12 „
4·8	98·13	5·15	3 Jan.	15·0	—	0·2	0·9	0·2	10·1	7·0	0·5	2·1	6·9	9·2	1·0	—	—	0·1	0·4	10·7	12 „
3·5	26·65	2·20	22 Aug.	9·0	—	—	1·6	—	16·5	3·3	0·3	1·5	2·6	0·6	11·7	3·2	3·2	1·3	2·0	4·3	12 „
6·1	87·24	5·85	9 Dec.	24·0	—	—	0·2	—	4·4	9·4	0·2	0·4	10·6	15·9	2·4	0·2	—	0·1	0·3	0·6	12 „
7·0	44·57	4·04	19 May	10·3	—	—	2·5	—	2·4	13·4	0·2	1·8	6·5	8·8	6·7	1·9	1·1	0·5	1·6	1·5	12 „
4·7	56·90	1·92	29 Oct.	15·0	—	0·2	1·3	—	9·7	4·5	0·1	2·1	4·6	1·3	3·5	1·5	9·7	2·2	2·5	3·1	12 „
4·2	104·19	4·20	14 July	17·0	—	—	0·9	—	18·6	6·0	—	3·3	1·2	0·4	0·7	1·9	7·0	8·0	8·0	—	12 „
5·3	81·37	5·80	24 July	9·2	—	—	1·1	—	12·7	11·3	0·1	1·3	10·5	5·3	1·1	1·4	2·5	1·0	1·7	5·7	12 „
3·8	34·94	5·40	17 July	6·3	—	—	0·9	5·3	17·1	6·3	0·9	2·2	6·5	3·3	0·2	4·8	3·0	0·5	0·1	6·9	7 „

APPENDIX No. VIII.

THE PARKES MEMORIAL PRIZE.

Surgeon-General Sir T. LONGMORE, Kt., C.B., *President of Committee.*
Brigade-Surgeon-Lieut.-Colonel J. LANE-NOTTER, M.A., M.D., *Treasurer.*
Surgeon-Captain A. M. DAVIES, *Secretary.*

Prize Essay Gold Medallists.

1883. Surgeon R. J. POLDEN, Indian Medical Service.
1886. Surgeon ANDREW DUNCAN, M.D., Indian Medical Service.
1889. Surgeon R. H. FIRTH, F.R.C.S., Medical Staff.

The following is the subject for the next prize:—

"MALARIAL FEVERS: THEIR CAUSATION AND PREVENTION."

The Prize is Seventy-five Guineas in Money and a Gold Medal, and is awarded Triennially.

The Competition is open to all Medical Officers of the Army, Navy, and Indian Services of Executive Rank on full pay, with the exception of the Assistant Professors of the Army Medical School during their term of Office. Essays to be sent to the Secretary of the "Parkes Memorial Fund," Royal Victoria Hospital, Netley, on or before the 31st day of December 1894. Each Essay to have a Motto, and to be accompanied with a sealed envelope bearing the same Motto and containing the name of the Competitor.

APPENDIX No. IX.

THE ALEXANDER MEMORIAL FUND.

TRUSTEES.

Inspector-General of Hospitals, R. LAWSON.
Surgeon-Major-General Sir W. A. MACKINNON, K.C.B., Director-General.
Deputy-Surgeon-General W. G. DON, M.D.

COMMITTEE.

Surgeon-Major-General Sir W. A. MACKINNON, K.C.B., Director-General, *President*.
Sir T. CRAWFORD, K.C.B., M.D., Hon. Surgeon to the Queen, *late* Director-General.
Surgeon-General Sir T. LONGMORE, C.B., Hon. Surgeon to the Queen, *late* Professor of Military Surgery.
Deputy Surgeon-General J. A. BOSTOCK, C.B., Hon. Surgeon to the Queen.
Brigade-Surgeon ALFRED F. S. CLARKE, M.D.
Inspector-General of Hospitals, R. LAWSON, Hon. Physician to the Queen.
Surgeon-General J. IRVINE, M.D., Hon. Physician to the Queen.
Brigade-Surgeon-Lieutenant-Colonel W. JOHNSTON, M.D.
Deputy Surgeon-General W. G. DON, M.D.
Surgeon-Major W. E. WEBB, M.B., *Honorary Secretary*.

PRIZE ESSAY GOLD MEDALLISTS.

1870. Assistant Surgeon A. B. R. MYERS, Coldstream Guards.
1873. Surgeon F. H. WELCH, Medical Department.
1876. Surgeon-Major J. H. PORTER, Medical Department.
1879. Surgeon JOHN MARTIN, Medical Department.
1882. Surgeon-Major F. H. WELCH, Medical Department.
1885. Surgeon JOHN MARTIN, Medical Staff.
1888. Surgeon ROBERT HAMMILL FIRTH, Medical Staff.
1891. Surgeon ROBERT HAMMILL FIRTH, Medical Staff.

At a meeting of the Committee held at 18, Victoria Street, S.W., on 6th March 1891, the prize of 50*l.* and Gold Medal of the value of 10*l.* was awarded to Surgeon Robert Hammill Firth, F.R.C.S., Medical Staff, for the best Essay on "The Use of Drugs in the Treatment of Disease in the Army, the Principles on which Medicines should be selected so as to meet the requirements of Field Service."

The essays of the unsuccessful competitors for the 1891 prize will be returned on application being made to the Honorary Secretary before 31st December 1893, but the unclaimed essays of unsuccessful competitors on previous occasions have, in accordance with the intimation in last year's volume, now been destroyed.

The subject for the next competition is "The Treatment of Wounds and Injuries of the Abdominal Viscera, as likely to be met with in Military Practice."

Essays to be despatched so as to reach the President of the Committee on or before 31st December 1893.

Essays are to be legibly written, superscribed with a brief motto, and accompanied by a sealed envelope similarly superscribed, containing the name and address of the author.

No essay shall exceed in length fifty pages of ordinary printed octavo, which may be estimated as amounting to 20,000 words (a page of octavo containing about 400 words). This limit to be exclusive of tables which may be added in the form of appendices.

The competition is limited to executive medical staff officers on full pay, but Assistant Professors at Netley are not allowed to compete while so employed.

W. E. WEBB, Surgeon-Major, *Hon. Sec.*

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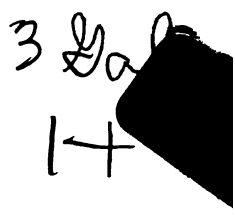

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